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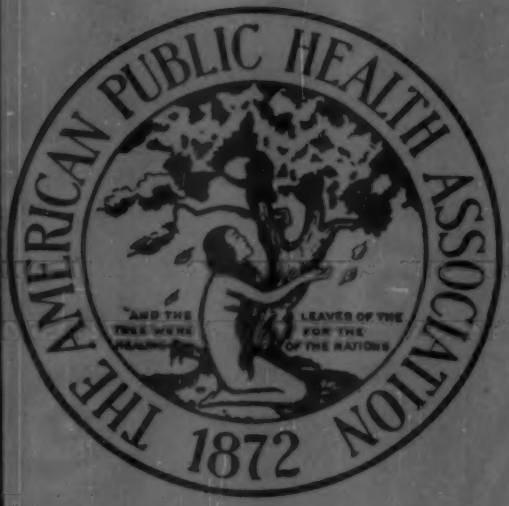

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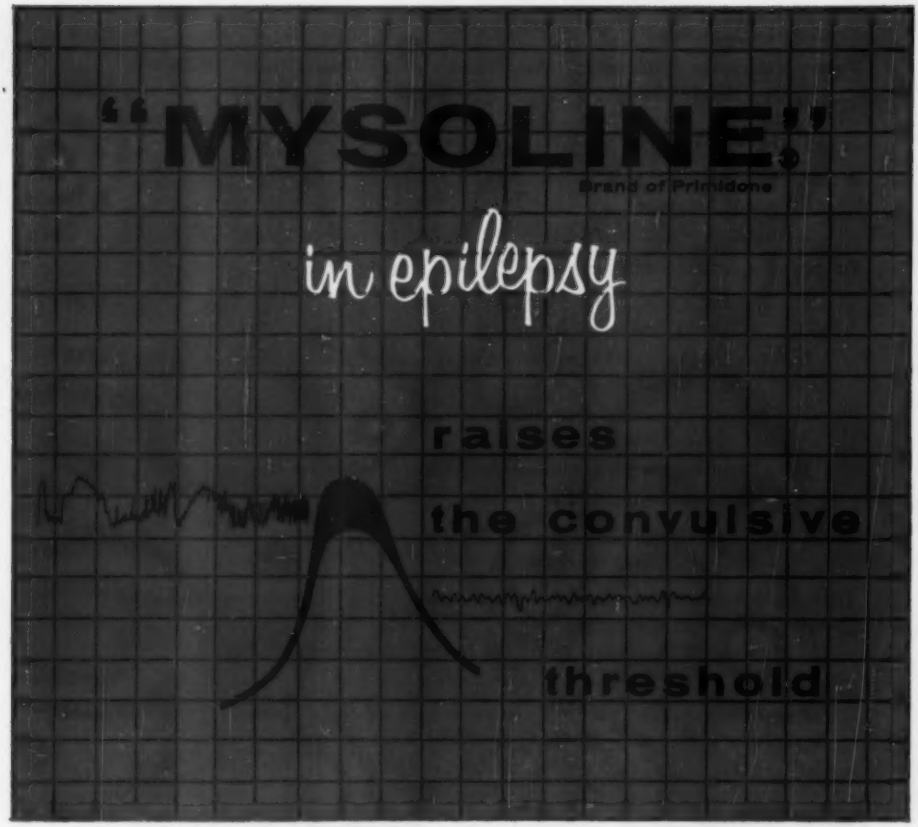

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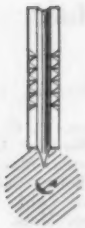

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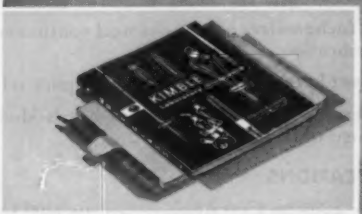

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1. Thomas, E.W.: J.A.M.A. *162*:1536 (Dec. 22) 1956.

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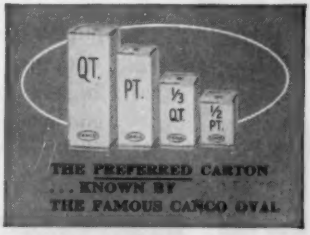

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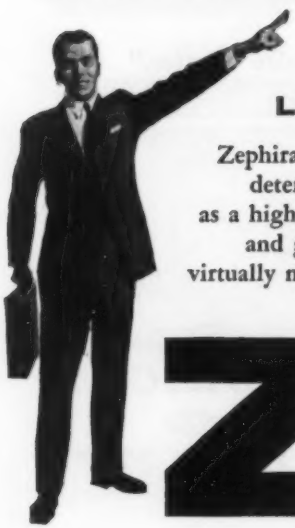

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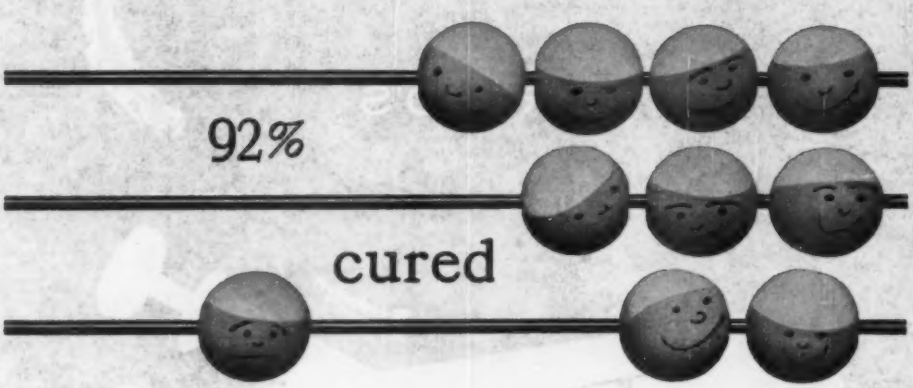

in 12 weeks[1]

The Salundek formula is based on clinical [2-4] and *in vitro* studies with each of its four antifungal agents individually, and on the successful trial of the combined formula.[1] Salundek Ointment contains mono- and dichlorosalicylanilides (4%), salicylanilide (3%), undecylenic acid (2%), and zinc undecylenate (10%). A special wetting agent is added to enhance spreading ability and penetration. Salundek Ointment is prepared with a non-irritating, nonsensitizing greaseless carbowax base. Salundek Ointment, 2 oz. tubes and 1 lb. jars. Samples, literature, and instruction pads for proper home care between visits are supplied to physicians upon request. Write to our Professional Service Department.

1. Kuhn, B. H.: South. M. J. *49*:1122 (Oct.) 1956. • 2. Carrick, L.: J.A.M.A. *131*:1189 (Aug. 10) 1946. • 3. Hopkins, J. G., and others: A.M.A. Arch. Dermat. & Syph. *67*:479 (May) 1953. • 4. Sullivan, M., and Bereston, E. S.: J. Invest. Dermat. *19*:175 (Sept.) 1952.

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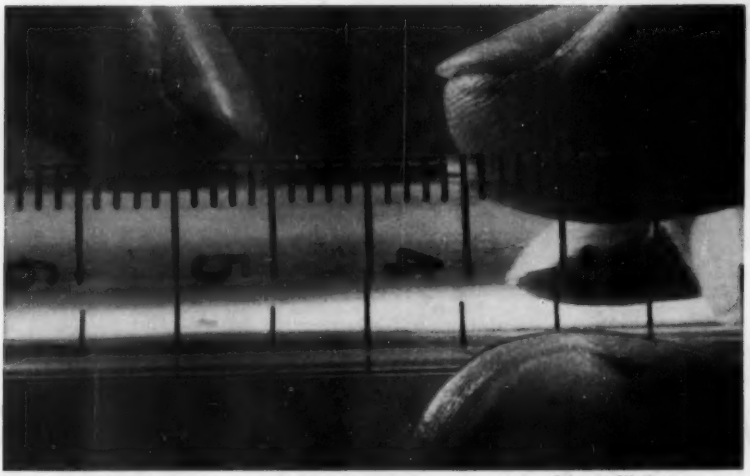

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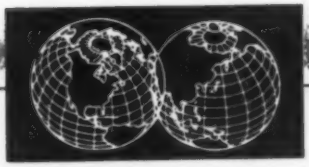

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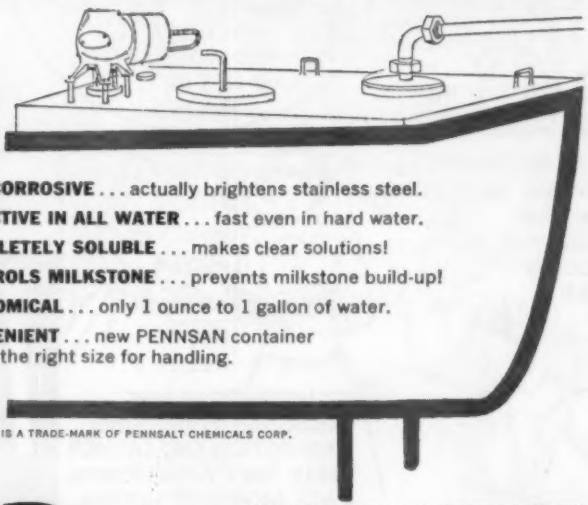

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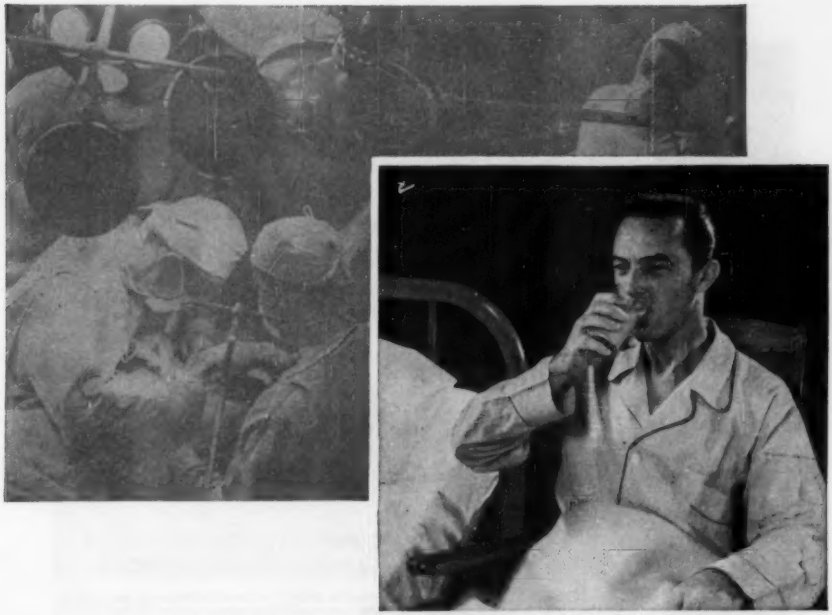

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Ovaltine is a soothing, nourishing, well-tolerated beverage that's ideal for use in many stress states where stimulating beverages are usually contraindicated.

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Copper	0.7 mg.	*Thiamine	1.2 mg.
Iodine	0.2 mg.	*Riboflavin	2.0 mg.
Fluorine	0.5 mg.	Pyridoxine	0.5 mg.
Cobalt	0.006 mg.	Vitamin B_{12}	5.0 mcg.
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Chlorine	900 mg.	*Niacin	10.0 mg.
Magnesium	120 mg.	Folic acid	0.05 mg.
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Zinc	2.6 mg.		
		*PROTEIN	32 Gm.
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*Nutrients for which daily dietary allowances are recommended by the National Research Council.

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*Write for booklet giving highlights of single-service spoon study recently made by William T. Ingram, Consulting Engineer and Adjunct Professor of Public Health Engineering, New York University.

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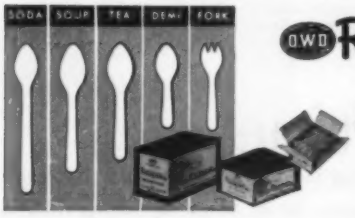
We will gladly send you samples, literature.



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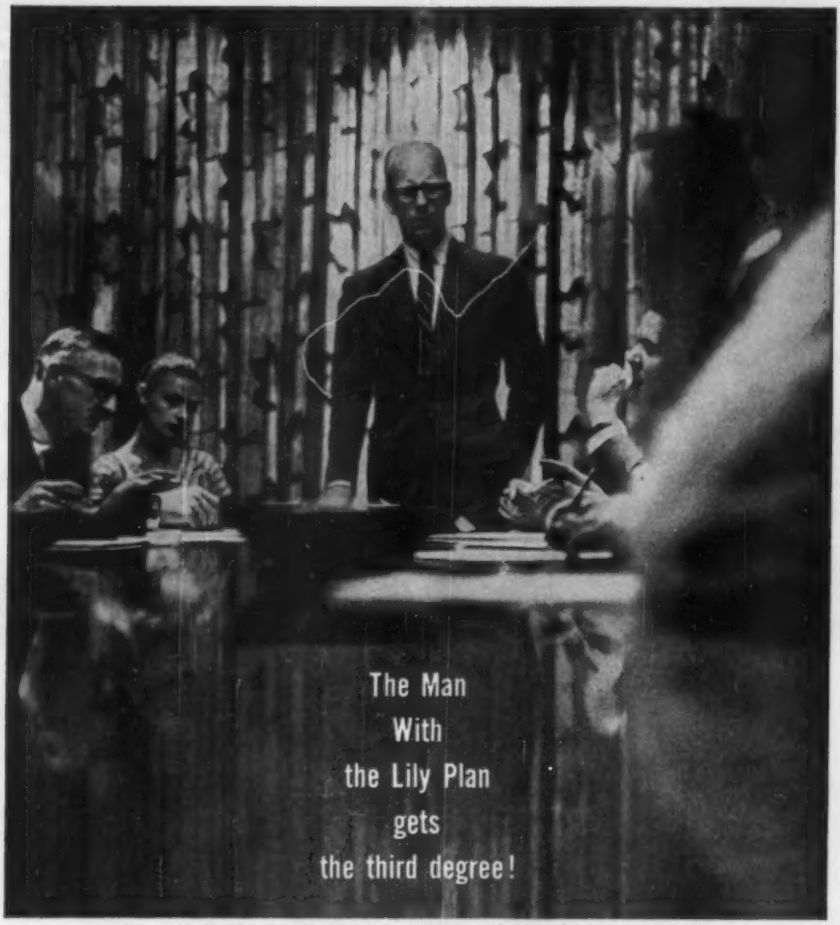

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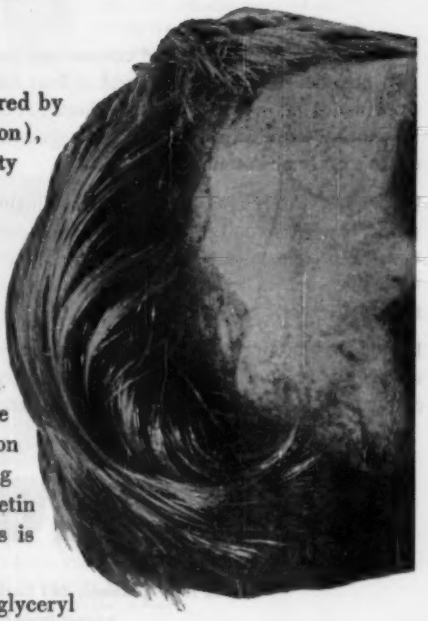

The unique mode of action of triacetin, discovered by Knight[1] (Wisconsin Alumni Research Foundation), stems from the fact that the release of free fatty acid (acetic) from the triacetin "reservoir" is controlled by the activity of esterase, an enzyme abundantly present in skin, serum, and fungi. Conversely, esterase activity which decreases as acidity increases, is controlled by the pH of the environment.

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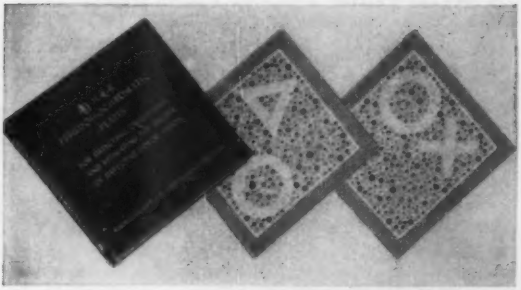

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Guessing and Knowing—What Makes the Difference?

A Tribute to a Statistician—Hilda Freeman Silverman

JAMES E. PERKINS, M.D., F.A.P.H.A.

This is indeed a fine and greatly deserved memorial to a too little known scientist in our broad field. But it is much more—we hope it will long remain an inspiration to generations of newcomers in our ranks.

My close friends began to call me "The Vampire" because of the way I was flitting over the State of Minnesota, drawing off pints of blood from men and women, boys and girls—anyone who had a previous history of a definite attack of paralytic poliomyelitis. I used as my list of "clients" the roster of cases of infantile paralysis reported to the Minnesota Health Department in the past, and with a portable bleeding kit which I had designed, I went about the state persuading past victims of polio to let me withdraw a pint of blood from each of them, for which I gave them a modest financial reimbursement. Then, with my gory load, I would drive swiftly back to the laboratories of the Division of Preventable Disease of the Minnesota State Department of Health on the University of Minnesota Campus, for processing of the blood into so-called "convalescent serum."

My heart was not particularly in my work during those days of some 25 years ago for I was skeptical that the serum was really of any value. To be sure, there were numerous articles in the medical literature at the time attesting to the value of convalescent serum in preventing paralysis if given in the preparalytic stage, but these apparent benefits were the result of observation of improvement in a consecutive series of cases following administration of the serum to each patient, without any adequate control series for comparison. A favorite procedure of these investigators was to calculate the case fatality rate among their series of cases, and to compare this rate with a case fatality

The Hilda Freeman Silverman Memorial Lecture was presented on October 24, 1956, by Dr. Perkins, managing director, National Tuberculosis Association, New York, N. Y.

rate calculated from the cases and deaths reported to the Health Department. This was not a fair comparison because for the most part only the more severely paralyzed cases were diagnosed as poliomyelitis and reported to the Health Department, although essentially all the deaths from polio were reported, so that the case fatality rate calculated on such a basis was higher than the true case fatality rate. There were other reasons for being skeptical. Favorable results were reported regardless of the number of years elapsed since the blood donor had had his attack of poliomyelitis. Nor did it seem to matter what dosage was used. This was contrary to observations of the value of other antisera and made one very skeptical of its validity. Nevertheless, there were such demands on the part of physicians and the public alike that we were forced to make the convalescent serum available, in spite of our scientific doubts. Here was an example of guessing and not knowing in a matter of great importance.

A few years later when I transferred from my position as epidemiologist in the Minnesota State Department of Health to a comparable position in the New York State Department of Health, I found that my superior was particularly interested in streptococcal infections; more specifically in determining whether or not there was a specific streptococcus which caused scarlet fever, with a different streptococcus causing septic sore throat; what the relationship was between the rash and the throat infection, and related questions. At the time there were some prominent bacteriologists who claimed there was one particular streptococcus causing scarlet fever and another one responsible for septic sore throat. Furthermore, it was claimed that scarlet fever could be prevented by preventive inoculations with a modified toxin derived from the streptococcus. Here again, there was much guessing and it was important not to guess, but to know, because if the preventive inoculations really were worth while, then they should be promoted on a large scale. If they were worthless, or of very little value, they should not. Furthermore, we had severe quarantine regulations for scarlet fever, and only very mild regulations re patients suffering from septic sore throat. If they were actually one and the same disease, then such variations in the regulations, of course, were silly, and wage earners, mothers, and others, were being put unnecessarily to great inconvenience and financial loss.

At about this same time the death rate among young children from whooping cough was appalling. Vaccines against whooping cough had been developed, but the two principal field studies that had been conducted in this country up to that time had resulted in diametrically opposed conclusions. One study apparently indicated that the vaccine was of considerable value.[1] The other study failed to show any value of the vaccine as a prophylactic against whooping cough.[2] Each of the two studies had been conducted by conscientious individuals very competent in their own fields, but in each case, certain legitimate criticisms could be made of the method of preparation of the vaccine, of conducting the study, or in analyzing the data collected. These two studies did provide comparison between inoculated children and supposedly comparable uninoculated controls, but in addition, there were a number of other reports which claimed favorable results based primarily on clinical impressions rather than on carefully controlled experiments.

Here, again, it was important to know, and not to guess. On the one hand, babies were dying like flies from the disease, and if the vaccine were effective and safe, immediate mass immunization of children would be indicated. On the other hand, if the vaccine

were not of value, then one would not be justified in spending the large sums of money and taking the valuable time of public health professional personnel, private physicians, and parents involved in an intensive campaign for the immunization of children against whooping cough.

Still later we became interested in some studies that caused one to question the old dictum that respiratory infectious diseases could be transmitted from one person to the other only within a few feet of the infectious individual. This was rather revolutionary since all medical schools and schools of public health were quoting the late Dr. Charles V. Chapin to the effect that such transmission did not occur. Nevertheless, careful study of the research in the past on this subject revealed that the interpretation of certain data implying such a conclusion might be incorrect. For example, if shallow dishes containing bacteria-growing culture media were placed on the floor in front of a person who sneezed or coughed, those close to the patient produced luxuriant growths of bacteria, whereas those further from the person had fewer colonies until those six feet or more distant had few or no colonies. This seemed to confirm the theory that one would not catch a respiratory infectious disease if one were six or more feet distant from the source case. But what was not taken into consideration was the possibility that if tiny droplets expelled in the sneeze or cough remained suspended in the air they would not settle on the plates but might be wafted on the air currents for considerable distances and for prolonged periods of time, and thus be capable of infecting someone who happened to breathe in these tiny, invisible droplets quite some distance from the patient.

Here again it was important to know, rather than to guess, not only from the standpoint of isolation procedures in the hospital and in the home with regard to individuals suffering from infectious respiratory diseases, and protective measures in research laboratories, but also because if infection actually were transmitted through the air currents, this opened up the possibility that one might be able to disinfect or remove pollution from the air just as we have been so successful in disinfecting or preventing the pollution of water supplies, milk supplies, and food.

There are many other problems I might have mentioned in addition to the four I have listed above. I merely mention these because they were some of the problems I encountered in my career as an epidemiologist and in which I was privileged to play a small part with others in clarifying to some extent.

It is remarkable how long we are content merely to guess at some of these important matters, rather than taking steps to determine definitely just what the situation really is. Perhaps my use of the word "content" is ill-chosen. Most physicians and even public health workers usually do not find themselves in a position to be able to engage in the type of research work necessary to clarify problems of this sort, even though they may question the validity of some of the concepts they encounter.

To clarify any such problem, one necessarily becomes involved in statistical technics and statistical methods. I received no training whatever in such statistical concepts and statistical methods when I was in medical school and I believe, even today, such instruction to medical students is extremely elementary. Of the courses which I took in qualifying for my master of public health and doctor of public health degrees at the Johns Hopkins University School of Hygiene and Public Health I believe that the one that intrigued me most, and indeed opened a whole new philosophy of life to me, was my course in biostatistics, taught at the time by Lowell J. Reed, who subsequently be-

came president of the entire Johns Hopkins University.

To individuals who have not had any statistical training there is not infrequently a reaction against the use of statistical methods. Such individuals are likely to say that all you need is common sense, and if you have to use statistical methods to prove something, that very fact makes the conclusion questionable.

As stated in an article in "The Lancet" introducing a series of papers by Bradford Hill on the principles of medical statistics: "Statistics are curious things. They afford one of the few examples in which the use, or abuse, of mathematical methods tends to induce a strong emotional reaction in nonmathematical minds. This is because statisticians apply, to problems in which we are interested, a technique which we do not understand. It is exasperating, when we have studied a problem by methods that we have spent laborious years in mastering, to find our conclusions questioned, and perhaps refuted, by someone who could not have made the observations himself. It requires more equanimity than most of us possess to acknowledge that the fault is in ourselves." [3]

Bradford Hill in commenting on this statement, preferred to turn it around from the viewpoint of the statistician, and said: "No statistician (in spite of views to the contrary) particularly enjoys refuting other workers' conclusions, especially when he knows that much patience and much hard work have been expended in the collection of data. He has no burning desire to be called in as an expert witness at the conclusion of the case for the plaintiff (on a subject matter he may not fully understand) to say that this is 'significant' and that is, statistically speaking, nonsense." [3]

Hill goes on to say: "Familiarity with medical statistics leads inevitably to the conclusion that common sense is not enough. Mistakes which when pointed out look extremely foolish, are quite frequently made by intelligent persons, and the same mistakes, or types of mistakes, crop up again and again." [4]

The problems I have enumerated above give support to these contentions. The various statements with regard to the value of convalescent serum in the treatment of preparalytic poliomyelitis, the role of various types of streptococci in the etiology of scarlet fever, the value of whooping cough vaccine, and the inability to transfer respiratory infectious diseases through air currents, were all made by intelligent individuals, highly trained in their respective specialities, and with an impressive degree of experience behind them, but in each instance, with one possible exception, the best standards of epidemiology and statistical analysis were not observed.

Indeed, faulty observations and faulty analysis unintentionally can actually be vicious from the standpoint of the health and welfare of the public. Faulty conclusions may cause difficulty in two directions. They may result in the continued practice of some procedure at great expense and even possibly with some danger, although actually worthless, and they may interfere with the development of determination of a superior solution to the problem, as for example, through causing an investigator to hesitate to conduct a properly controlled study because of acceptance by "authorities" of a given procedure in spite of skepticism arising from an objective analysis of the scientific basis for the procedure in question. I was told that I might be run out of town or sued for malpractice if I conducted a truly well controlled study on the value of convalescent serum in poliomyelitis back when I was a "vampire" and skeptical of my sanguineous occupation. Fortunately some others had courage enough to conduct such a controlled study elsewhere and, as I suspected,

these results completely exploded the assumption that convalescent serum as used widely at the time was effective in the prevention of paralysis in poliomyelitis.

When we speak of statistics we are referring to "quantitative data affected to a marked extent by a multiplicity of causes." [5] It is this matter of the possibility of a multiplicity of causes which distinguishes the statistics of the epidemiologist from the data of the laboratory experimental worker. The scientists working in the laboratory on some medical research problem can reduce to a very large extent this factor of remote multiplicity of causes. He uses experimental animals of a known heredity, of a specific age, a given sex, a given weight. He can control the environmental conditions of the control group and the experimental group so that they are comparable, and although he may use statistical methods in analyzing his data, the data themselves are not ordinarily referred to as "statistics."

The epidemiologist, on the other hand, has to take people as he finds them. If he is a wise epidemiologist he will, of course, plan his field research in close cooperation with a good biostatistician, who will have the responsibility of supervising the analysis of the data at the conclusion of the experiment. The epidemiologist, again with the help of the statistician, will see that the experiment is supervised closely throughout its duration, to be certain that the agreed upon rules of conduct of the experiment are adhered to rigidly. Finally, he will assist the statistician in the subsequent analysis of the data, contributing to that analysis the detailed technical knowledge which he possesses with regard to the field of investigation, which is beyond the scope of the training and experience of the statistician.

From the above, I am sure you have already gathered that I feel it is absolutely essential for proper epidemiologic studies of this sort to be conducted by a team. Bradford Hill, in pointing out the recurring statistical errors by medical investigators came to the conclusion that "There seems to be only one way of escape. The worker in medical problems, in the field of clinical as well as preventive medicine, must himself know something of statistical technique, both in experimental arrangements and in the interpretation of figures." [3] I thoroughly agree with Bradford Hill's conclusion, but I think he does not go far enough. Although the medical investigator should have some knowledge of statistics and the statistical method, he will not be qualified to conduct the statistical work himself, unless he is the very rare person who has taken several years of postgraduate study in this special field. Since this is unlikely, he must have as a member of his team a capable statistician.

Here we should make the same sort of comment about the statistician that has been made with regard to the medical investigator; namely, that it is not enough for a statistician merely to know statistical methods. If the piece of research is really to be fruitful, it also is important that the statistician have some general, and preferably some fairly specific knowledge of the field of investigation itself. Thus, the basic team consists of two individuals: the investigator, with a minor competence in statistical method and technics; and a statistician, with a minor competence in the field of the investigator.

It is not enough to have the investigator merely refer an observed difference between his manipulated group and his so-called "control" group to a statistician for determination of how frequently such a difference might occur merely from chance. This may lead to such misleading and erroneous statements as the one which appeared in an early paper on the value of convalescent serum in poliomyelitis. This statement

read: ". . . if we assume that serum has no therapeutic value whatever, an accurate analysis according to the statiscal method by a qualified statistician has shown that the results shown in Table V could only occur (from chance) once in 500 times." [6] The difference between the two groups was indeed statistically significant, but the two groups were not at all comparable and there were other factors besides the serum which could adequately account for the lower percentage of paralysis in the inoculated group.

This brings me to the very fruitful period of epidemiologic research in the Division of Communicable Diseases of the New York State Health Department in the 1930's and 1940's, for there came to the professional staff of that division in the 1930's a series of physicians who had had special training in public health, including some training in statistical method, and who were served by a most remarkable and well-trained statistician by the name of Hilda Freeman Silverman. There issued from that division during those years a series of papers on a great variety of communicable disease subjects, including measles, diphtheria, typhoid fever, food poisoning, poliomyelitis, streptococcal infections, pneumococcal infections, and air-borne infections. Many of those physicians have gone on to other capacities, but perusal of the Quarterly Cumulative Index Medicus will reveal that in most instances those were their most productive years in original scientific work in the epidemiologic field—years when they were associated with Hilda Freeman Silverman and other competent statisticians in the Division of Communicable Diseases.

Such certainly has been true with regard to myself, and I should like to review briefly some of those studies. The fact that published epidemiologic studies bearing my name as a co-author are so concentrated in that period is not an indication that only during that time did I have any intense interest in conducting research of this nature. I had been interested in doing work of this sort when I was still an epidemiologist in the Minnesota Health Department, and also while I was a District State Health Officer in Amsterdam, N. Y. I did turn out a few minor studies in those capacities, but only after a great deal of hard work squeezed in after hours and on weekends—and most were never published. In other words, to produce adequate epidemiologic studies it is essential that there be provided the machinery for planning, conduct, and analysis of such studies; they will only be sporadic and of inferior quality otherwise.

So far as the New York State Department of Health is concerned, Mrs. Silverman (then Miss Freeman) was first recognized for her unusual ability by Dr. Edward S. Godfrey, Jr., who was then director of the Division of Communicable Diseases, and who noted the unusually excellent communicable disease records in the Syracuse Health Department. He was particularly interested at the time in determining the reason for the high death rate from measles among children, especially in institutions, and in evaluating immunization against diphtheria. Godfrey discovered that the clerk responsible for the excellence of these records was Hilda Freeman, and he was able to persuade her to join the staff of the Division of Communicable Diseases in the State Health Department in Albany and take additional statistical training at Johns Hopkins University under Lowell Reed. She assisted Dr. Godfrey in his classic studies of measles in children's institutions and the effect of immunizing an adequate percentage of preschool children against diphtheria, which resulted in programs producing a precipitous drop in deaths among children from both causes.

When I joined the division on Janu-

ary 1, 1934, Dr. Godfrey had become assistant commissioner for local health administration, and Dr. George H. Ramsey was director of the division. In my first major assignment I was directed to go to Binghamton, N. Y., and study scarlet fever, period! This was quite different from the sort of work I had been doing in Minnesota as an epidemiologist, where in adddition to my blood-collecting activities I was primarily a differential diagnosis consultant for private practitioners confronted by diagnostic and treatment problems involving communicable diseases. I am sure I would have been completely frustrated and lost had it not been that Mrs. Silverman was assigned to assist me.

With her ready help we arranged with local health officers to be notified of every case of suspected scarlet fever, and while I checked on each case and obtained a very careful history of the illness, followed its progress, and obtained data with regard to other illnesses in the family at the same time, Mrs. Silverman collected various other data from the health department records with regard to cases and deaths attributed to conditions which might possibly be due to hemolytic streptococci. Dr. Ramsey found that our data fitted in well with the observation of what happened in raw milk-borne outbreaks of streptococcal infections throughout the state, in which those who drank a particular batch of infected raw milk developed a variety of clinical conditions; that is, some developed typical scarlet fever, some merely had a sore throat, some developed erysipelas, and so forth. Further studies showed that in each instance all the illnesses had been due to one particular type of streptococcus from the infected udder of one cow, infected in turn from one milker. These studies indicated that the characteristic rash, which is the only criterion of calling a case "scarlet fever," was more or less merely a happenstance, depending upon previous experience of that individual to toxin from erythrogenic strains of streptococci. If he had had such a prior experience, he developed an infected throat but no rash; if not, he developed the rash as well.

The most immediate practical result of these studies was the modification of quarantine regulations reducing the severity of the quarantine with regard to scarlet fever, and grouping them all together under "streptococcal sore throat (including scarlet fever)." They also made doubtful the value of immunization with modified toxin because, although such inoculations did frequently prevent the development of a rash, there was no evidence they prevented development of streptococcal sore throat.

With regard to the clarification of the value of pertussis vaccine, this necessarily had to be a very carefully planned, well controlled study, employing the best vaccine then available, which we obtained from the Michigan State Health Department laboratories. This study, too, was conducted in Binghamton, N. Y., the site of our study on scarlet fever and related streptococcal infections. To obtain a proper control group and eliminate any possible bias, children from six months through four years of age, attending Binghamton's City Well Baby Clinics were used for the study and such children were considered eligible if they had no prior history of pertussis or pertussis immunization. Each eligible child was given a hemolytic streptococcus toxin skin test and every other child was given a pertussis vaccine inoculation as well. The children receiving only the skin test were kept as controls.

As I commented before, statistics deal with quantitative data, affected to a marked extent by a multiplicity of causes. In this case there were many things that might possibly have affected the incidence of whooping cough in the two groups, such as living in a better

part of town, age, sex, and the variation in observation and supervision during the period of the study. Although the chances are that such randomization through inoculation of alternate cases will equalize factors of this sort in the two groups, one cannot be certain of this since occasionally just from chance there may be a marked variation in the one group compared with the other with regard to certain characteristics that may be relevant to the problem under consideration. It is important, therefore, to compare the two groups with regard to these various criteria to determine to what extent they actually did turn out to be comparable through the randomization process.

I shall not bother you with all of the analyses along this line in this particular study.[7] Let me merely state that the chronologic accumulation of children for observation proceeded at an equal pace in the two groups, and the economic status was quite similar, although there did happen to be a slightly larger percentage of the vaccinated group in the families of good economic status (24.1 per cent compared with 16.4 per cent in the controls). The number of individuals per household were quite comparable in the two groups. Table 1 shows the comparability by residence, and Table 2 shows certain other characteristics among the vaccinated as compared with the controlled groups. With this assurance of comparability we felt secure in attributing the definitely reduced incidence among the vaccinated group to the vaccine.

Table 1—Prophylactic Pertussis Vaccine Study, Binghamton, N. Y.

Residence of Children as of Entry in Study

Ward	Per cent	
	Vaccinated	Controls
1	18.9	18.5
2	6.6	6.3
3	1.5	2.1
4	2.6	1.9
5	9.5	9.6
6	15.7	13.0
7	7.7	10.2
8	2.2	4.1
9	0.3	0.6
10	5.5	5.2
11	12.4	14.0
12	8.7	7.2
13	4.1	3.6
Out of city	4.3	3.9
Total	100.0	100.0

Table 2—Prophylactic Pertussis Vaccine Study, Binghamton, N. Y.

Study Children According to Comparability of Vaccinated and Control Children

Criterion of Comparability	Vaccinated	Controls
Average age in months *	25.1	24.6
Per cent males	50.6	54.9
Per cent with history of tonsillectomy *	4.5	3.9
Per cent with history of measles *	13.6	16.5
Per cent with history of scarlet fever *	1.2	1.6
Coughs ‡ per child (annual average) ‡	1.2	1.2
Other respiratory illnesses per child (annual average) †	1.9	1.8
Per cent having change of address †	38.8	40.5
Average monthly interval between nursing visits	1.1	1.1

* As of entry in study.
† During period of observation.
‡ Exclusive of pertussis, and coughs preceded by pertussis exposure.

This study, together with other good studies reported about the same time and later, clinched the value of whooping cough vaccine and so far as I know, it has never been challenged since. On the contrary, routine immunization against whooping cough has become the universal practice throughout this country and I believe has been largely responsible for much of the precipitous

drop in deaths from whooping cough in the United States.

One of our next major studies was that of the value of the gamma globulin fraction of blood in the treatment of preparalytic poliomyelitis.[8] I have already indicated the failure to show any results from the use of convalescent serum. There had been some basis, of course, for the trial of convalescent serum since it was known that there were antibodies in the blood of individuals who had suffered from poliomyelitis and hence there was the possibility that the use of blood or some product from blood might produce enough passive artificial immunity to forestall or lessen the amount of paralysis, if given before paralysis occurred.

As a result of intensive study of the various fractions of blood, particularly at the Harvard Medical School, it was shown that antibodies against a number of infectious diseases were concentrated in the gamma globulin fraction. Careful research showed that this gamma globulin could be used effectively in reducing the seriousness of measles if given soon enough following exposure. This knowledge also caused one to consider the possibility that antipoliomyelitis antibodies might be so concentrated in gamma globulin that one could show results through the use of this product, even though the convalescent serum studies had been disappointing. To be sure, there was some reason to believe that by the time of the development of the first symptoms of poliomyelitis, it might already be too late to forestall paralysis, even with concentrated antibodies, but here again this was merely a supposition that had to be determined definitely.

Accordingly, we designed a study to demonstrate whether or not this procedure might be effective in preventing paralytic poliomyelitis. Rather large stores of gamma globulin had been accumulated by the American National Red Cross because of its blood program during World War II. Such gamma globulin had been made available for use in measles, but was supposed to be confined strictly to such use. In spite of this restriction, several physicians had used the product in the treatment of early cases of poliomyelitis, and were beginning to claim definite results through such use. As in the case of convalescent serum, these were not well controlled studies but merely clinical impressions on the part of practitioners, and I realized that if a well controlled study were not conducted without delay, these amateur and possibly fallacious observations would be accepted as fact, which would then make the conduct of a carefully controlled study extremely difficult if not impossible.

Mrs. Silverman, with the help of Dr. Anne Bahlke and others, planned a carefully controlled study[9] and applied to the American National Red Cross for an allocation of gamma globulin for this purpose, which was granted. We were able to get the study organized in time to conduct it during the big epidemic of poliomyelitis in 1944. We established certain definite criteria for a diagnosis of preparalytic poliomyelitis, and obtained the cooperation of the staffs of the Arnot-Ogden and St. Joseph's Hospitals in Elmira, N. Y., and the Children's Hospital and Meyer Memorial Hospital in Buffalo. Every other patient, admitted to these hospitals and meeting our criteria for the diagnosis of preparalytic poliomyelitis was given a large dose of gamma globulin and followed periodically thereafter by trained physical therapists to determine the occurrence and extent of subsequent paralysis.

Here again before studying to what extent, if any, the gamma globulin had reduced the development of paralysis, it was important to determine whether or not the treated group and the control group of patients really were compar-

Table 3—Prevention of Paralytic Poliomyelitis by Administering Gamma Globulin in Preparalytic Stage

Criteria of Comparability—Buffalo 1944

Criterion	Number of Patients	
	Treated	Controls
Total	49	48
Month of onset:		
August	25	24
September	20	21
October	4	3
Male	34	30
Under 5 years of age	4	7
5–9 years of age	18	18
10–14 years of age	18	16
15 years and over	9	7
Interval from onset to hospital admission:		
1 day or less	13	12
2–4 days	17	17
5–7 days	13	13
8 days and over	6	6
Cerebrospinal fluid total cell count:		
10–49	19	17
50–99	11	10
100–199	13	14
200 and over	6	7
Received hot packs	47	43

able. Table 3 shows the analysis of the comparability of the two groups. The two groups were almost embarrassingly similar for one would expect that merely from chance there would have been a somewhat greater variation. Again with the assurance of the comparability of the two groups, we felt justified in attributing any difference between the two groups to the effect of the gamma globulin. However, to our disappointment, the two groups were also entirely comparable with regard to the development of paralysis, and we concluded that even large doses of gamma globulin given after the development of first symptoms and prior to paralysis would not prevent subsequent development of paralysis.

It should be stressed that this conclusion is not contrary to the findings of the studies of Dr. William M. Hammon, of the Graduate School of Public Health of the University of Pittsburgh, conducted some years later under the sponsorship of the National Foundation for Infantile Paralysis. We were treating individuals who were already ill, and Dr. Hammon's study was the effect of community-wide administration of gamma globulin to apparently well children and thus was administered in many, if not most, instances to individuals who had not become infected as yet with the polio virus. As a matter of fact, we realized that such a study was the next step, but this was beyond our financial and staff capabilities. Such a study had to await the expansion of the National Foundation of Infantile Paralysis to the point where large sums of money were available for the conduct of such an extensive and costly field study. Dr. Hammon was able to show some value to community-wide administration of gamma globulin in reducing the subsequent incidence of paralytic poliomyelitis, but this advance has been eclipsed in turn by the development of the Salk vaccine which produces an active immunity.

The last study I had the privilege of working on with Mrs. Silverman was the question of air-borne infection. Some very interesting studies had been conducted on this matter by Professor William Firth Wells and his wife, Dr. Mildred Weeks Wells, then of the University of Pennsylvania, and we felt it was important to confirm or refute these studies of revolutionary import. Accordingly, we arranged through the courtesy of the General Electric Company for the installation of ultraviolet light irradiation of classrooms in two large rural centralized schools near Syracuse. We installed such lights throughout the Cato-Meridian School; in half the elementary schoolrooms in the Port Byron School;

and used the Mexico Central School for observation of the development of communicable diseases without installing any lights in that school. We were fortunate, from our standpoint, in having an outbreak of measles go through all three schools shortly after our installations had been completed. In contrast with sharp explosive outbreaks of measles in all three communities in the past, we found that, in the Cato-Meridian School—with ultraviolet lights installed in all rooms—the measles cases smouldered along throughout the entire school year. In the Mexico School there was the usual typical sharp explosive outbreak of short duration. In the Port Byron School, which had only half of the elementary classes irradiated, the outbreak was intermediate between that observed at the Cato-Meridian School and the Mexico School, and when one further analyzed the data within that particular school with regard to the irradiated classes versus the nonirradiated classes, again a difference was observed, with the outbreak in the nonirradiated classes being considerably more explosive than in the irradiated classes.

I should like to stress that the purpose of this study was not primarily to learn how to control measles in schools. As a matter of fact, school age is the best time to have an attack of measles and unless one could protect a person from becoming exposed to the measles virus throughout his entire life, it is probably better to have one's attack during school age than either earlier or later in life.

The results of this study, however, in my opinion, fully confirmed the Wells's theory that measles as well as a number of other infectious diseases, actually are truly air-borne. The lights were effective in destroying the measles virus within the classroom to the extent of preventing mass infection of the entire class upon exposure to a child in the classroom coming down with measles. The children, of course, had extensive contact with their colleagues in other environments, particularly in the school buses, and no doubt such extra-classroom exposure was responsible for the continued occurrence of cases even among students in the Cato-Meridian School.

Further exploration of the possibility of controlling air-borne infection in general is continuing, although unfortunately in my opinion not as extensively and as aggressively as was the case at the time of our studies in the Syracuse area schools.

In conclusion, let me stress that such studies were made possible only through a number of factors: first, the wisdom of those directing the policies of the New York State Department of Health, who recognized the value of such research and made available the money and the staff required for their conduct; and second, by organizing these studies on a team approach basis, with the teams headed by epidemiologists who knew something of the statistical process and were assisted by competent statisticians who knew something of the field under investigation.

As I have indicated, the outstanding statistician in this respect attached to the Division of Communicable Diseases was Hilda Freeman Silverman. Not only was she a most competent statistician, but she had a remarkable grasp of the basic facts of infectious diseases, and this background knowledge was extended further to a notable extent after she became the wife in 1934 of one of the outstanding pediatricians of New York State and director of the Division of Communicable Diseases of the Syracuse City Health Department, Dr. A. Clement Silverman. She was so valuable, in fact, that after her marriage, when obviously she could have retired she heeded our pleas that she continue to be our statistical consultant involving field studies of the Division of Communicable Diseases. It is ironically

tragic that our recognition of her unique value and her generosity led to her untimely demise, for the automobile accident in 1953 in which she lost her life occurred during an inspection of the studies being continued in the three large central rural schools near Syracuse.

Mrs. Silverman's untimely death was indeed a tragedy, but what an envious legacy she left and what a real immortality she possesses. We see in the life of this statistician almost a reversal of fertility relationships. Men who alone were quite barren and sterile were enabled through her imagination, energy and skill to achieve fruitfulness of lasting benefit to mankind. Probably thousands of children have escaped strangulation from diphtheria, death from pneumonia following measles, and fatal paroxysms of whooping cough because of advancements in public health practice based upon studies in which she played an essential role. Is it too much to say that these children, who did not perish but grew up to be productive members of society, are in a very real sense partly hers? They live because we stopped guessing, and learned instead to know what should or should not be done—and Hilda Freeman Silverman, to a major extent, made the difference.

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"Air Pollution Meteorology" at Taft Engineering Center

A course in "Air Pollution Meteorology" will be conducted at the Taft Sanitary Engineering Center, Public Health Service, on September 16–27, 1957. The course, designed for engineers, physicists, and scientists concerned with air pollution, will include the basic meteorologic fundamentals and conditions affecting the pollution of the atmosphere. Through field exercises the basic technics and the use of equipment are practiced.

Applications and further information from Paul Woolrich, Chief, Air Pollution Training, Robert A. Taft Sanitary Engineering Center, 4676 Columbia Parkway, Cincinnati 26, Ohio.

C.-E. A. Winslow: An Appreciation of a Great Statesman

REGINALD M. ATWATER, M.D., Dr.P.H., F.A.P.H.A.

A close associate of Professor Winslow during the decade when he was Editor of the American Journal of Public Health has here summarized the spirit and quality of Winslow as reflected in his writings.

When Professor Winslow retired at Yale in 1945, he had completed 30 memorable years as Professor of Public Health. Since his retirement a dozen years have passed, during which many men and women have entered the field of public health with at best a limited opportunity to become acquainted with this extraordinary man. Some of us who had the great good fortune to be close to him owe it to others to share with a wider audience the inspiration which came to us.

I well remember early in 1944 extending an invitation to Professor Winslow to become Editor of the American Journal of Public Health. He had a ripe experience, not only in several public health specialties, but as well a notable insight into the American Public Health Association as the professional society of several health professions. He had been a member of the Association since 1902. He had served in many capacities, becoming President in 1926 at the age of 49. He was the principal founder of the Committee on Administrative Practice and he also had built the Committee on the Hygiene of Housing from the ground up. His acquaintance was impressively broad. For those who did not know him personally, let me spell out some of his versatility. He had firm links with the laboratory field, with environmental sanitation, and as well with industrial hygiene. He was consistently concerned with the study of public health administration and was one of the early public health leaders in community mental health. His involvements with public health nursing, with medical care and with the health education of the public were widely known. He was a writer of distinction and a teacher of renown. His counsel was prized. He was a favored speaker before his colleagues. He was a world citizen in the realm of health. It was inevitable, therefore, that the authorities in the Association wished to extend an invitation to him to edit the Journal. It was our good fortune and that of tens of thousands of readers across the world that he accepted.

Winslow was invited to share with a large audience of readers his philosophy and his insights during a period when his ripe scholarship came to full fruit. He accepted the challenge. He divested himself of the Editorship of the Journal of Bacteriology which he had edited since 1916. He gave primary attention to the American Journal of Public Health over a period which included ten and a half years, from April, 1944, to October, 1954. During these years he wrote 431 editorials and contributed eight manuscripts to the Journal. Here is the priceless record of a free-ranging mind letting itself go over a decade. Here are wonderfully selective essays, some of them timely—some of them timeless, but all with depth and insight. Let us seek through a review of these topics some concept of his philosophy

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(The fourth C.-E.A. Winslow address presented at the Department of Public Health, Yale University, April 26, 1957.)

and outlook. They justify, I believe, the claim that he was a great statesman.

Winslow characteristically was able to put his finger on newly developing areas of great significance—what he called the germinal areas. His first editorial, written in 1944, was on the new product DDT and its possibilities. In the same issue he began his editorial emphasis on the slum as an enemy of the public health. The next issue picked up fluorine and dental caries and the emerging plans for medical care for the families of service men. Looking back after a dozen years it is clear that he had a true perspective of history in the making. The problems of public medical care were close to the surface of his consciousness. Voluntary health agencies and their enormous potentials attracted him. He saw in this voluntary approach a distinctive American method. Always the historian, Winslow was concerned with keeping the record of beginnings straight. Fortunately, many of the facts of public health history in North America were firsthand knowledge with him.

His recurring reference to the problems of administration reflect his long concern gained during the 15 years when he was chairman of the Committee on Administrative Practice. He was always sensitive to the expanding responsibilities of the health officer and his colleagues. He saw program material emerging in mental health, cancer control, safety activities, in chronic illness and rehabilitation. His attempts to direct attention to these newer and vital areas were notable. Today's student of public health might review Winslow's editorial output of this decade without finding anything missing of what we now regard as the essentials of an inclusive public health program.

Other modern emphases were well recognized in their early stages. His writings reflect the importance of controls and research in public health practice, the inconspicuous but important nutritional deficiencies, a sound program for international exchange in professional education, the coming victories over maternal mortality, and over syphilis and gonorrhea. He urged basic research in the public health field, he worked to raise levels of professional education for health workers, he sought clean air and the avoidance of atmospheric pollution. Radiation hazards were promptly brought to the attention of all public health workers. He studied the best utilization of medical and public health manpower, the emerging health consciousness of the labor movement and such interesting relationships as the link between pulmonary cancer and cigarettes. Here were examples of an alert mind aware of the growing edges of our public health movement and continually seeking new and sound directions in which science can be put to the service of human life.

Professor Winslow made it a point to distribute his editorial essays over a range that periodically concerned each of the public health specialty areas. I have sought to classify these editorials over some 27 categories to discover where his principal emphases lay. Beside the interests of the 14 Sections into which the APHA is now divided, there are other subjects like professional education, international health, legislation, tuberculosis, categories like the venereal diseases and chronic disease and rehabilitation to which he gave major attention. Taking the 27 interests as a whole, his most frequent attention went to the field of administration, then to engineering and sanitation, to epidemiology and medical care. These subjects were followed in order by mental health, by problems of the hygiene of housing, the public health laboratory, health education of the public, public health nursing, and maternal and child health. It would be difficult to name another writer who had such a wide spectrum of compe-

tence. This breadth and versatility is well brought out in the vignettes covering 14 areas of his interests printed in the February, 1957, issue of the American Journal of Public Health as a memorial tribute.

I have sought to recapture from these contributions which Professor Winslow made to the American Journal of Public Health some examples of his artistry and his statesmanship. There is a wealth of material from which selections might be made. Another person among those who stood close to him during these years might select an entirely different cross-section of his writings and present equally persuasive evidence of his statesmanship. This is a measure of the quality of the man and the comprehensiveness of his interests.

Professor Winslow was always well oriented as he pursued his educational goals. After seven years experience as consultant to the American Public Health Association on the Accreditation of Schools of Public Health in North America, he wrote a memorable report from which I extract the following paragraph. Unerringly it points the finger toward an underlying significance:

"The American Public Health Association believes that the general plan and structure of our educational program is sound. It is based on a conception which we in the United States are apt to take for granted but which is strange and unfamiliar in most other countries. This is the concept that public health is not a branch of medicine or of engineering but a profession dedicated to a community service which involves the cooperative effort of a score of different disciplines. The fact that doctors and dentists and nurses and engineers and health educators and microbiologists and statisticians and nutritionists sit together in our schools and take the same degree is of incalculable importance. It is based on bold assumptions; but it has worked. It provides the only sure basis for true cooperative community service in the future. It constitutes one of the most significant contributions in the United States and Canada to the basic philosophy of public health."

Winslow's early emphasis was very largely on the environment and its influence on health. However, he never lost the perspective of those human values which make the control of environmental hazards socially important. For example, in his long-standing insistence on the elimination of the slum he said, "The sense of inferiority due to living in a substandard home is a far more serious menace to the health of our children than all the insanitary plumbing in the United States." [1]

Winslow's strategic judgment is well brought out by an editorial written in April, 1945, before the first conference of the United Nations at San Francisco. It was a plea more than a year before the founding of the World Health Organization for a war against disease on a global scale. He wrote: "There is no field where international cooperation is easier or more obvious than in the war against disease. Furthermore, from the notably successful career of the Health Section of the League of Nations, we know exactly what type of international health organization is needed. We can blueprint the desirable machinery with confidence and reasonable completeness. We are not thinking in terms of any Global Super-Health-Department, but of a sort of General Staff, for the coordination of the results of research and of administrative practice in the field of public health, for the interchange of epidemiological intelligence, for aid in the training and distribution of sanitary personnel, for placing the best available expert advice at the disposal of those nations who desire assistance in solving the urgent health problems of the postwar world." He went on to make a strong plea for decentralization and for regional health organizations. "We have in the Pan American Sanitary Bureau an established and functioning regional organization for the Americas which must be tied in to the United Nations program; and similar regional

machinery should be set up for other continents."

Winslow had a characteristic reaction to those who constantly look under the bed to find the lurking bureaucrat. The following paragraph epitomizes his consistent response:

"We sometimes meet with statements which contrast the alleged bureaucratic control supposed to be involved in government grants with the freedom of initiative characteristic of the contributions of voluntary agencies. This contrast . . . is fallacious. We do not for a moment imply that voluntary agencies have, in practice, exercised undue pressure. Such is not the case. That they could exert such pressure, if unwisely directed, is however clear. Their managing boards are, in actual fact, largely self-perpetuating and the general public has no control over their conduct. Governmental agencies, on the other hand, are responsible to the citizenship which supports them. They are highly susceptible to pressure from individual citizens or groups of citizens. It may be suggested that those who lie awake at night in fear of federal domination have at the bottom of their minds a different concept of government, which assumes that domination by someone is essential and that such domination can best be exercised by themselves. In a democracy, as we conceive it, the government is Our Government. It cannot tyrannize over us because we control it; and we accept the underlying faith of the foundling fathers in the ultimate soundness of the democratic process." [2]

Professor Winslow's ability to pack an historic sequence into a paragraph is well illustrated by the following written in 1940: ". . . public health is today passing through a sea change even more significant than that which occurred 30 years ago. Before 1910, we were concerned almost wholly with the physical environment, with polluted water and milk supplies, with dump heaps, and with the hostile germs of communicable disease. From 1910 to the present time, we have been preoccupied chiefly with the body of man, with the study and correction of its defects and the treatment of its disorders. Today we turn our eyes outward again to the environment, but to a different and more complex environment, to the social environment which man has created for himself and in which he lives and moves and has his being as truly as in the atmospheric ocean whose miasmas challenged the imagination of our predecessors of 1890. Then public health was an engineering science; today it is a medical science; may it not tomorrow be a social science?" [3]

Often throughout his illuminating narratives which describe a particular issue like housing or clean water or the disposal of wastes, Professor Winslow brought his discussion to a sharp focus and provoked his listeners to think in terms of broad horizons. Here is another 1940 extract:

"If I am correct in this prognosis, there will be here a tremendous challenge to the vision and the courage of our public health profession. The tasks of the future will be more difficult and more complex than those of the past. The diphtheria germ had no friends; the insanitary but profitable tenement has powerful allies. Progress in nutrition, in housing, in social security, is being fought and will continue to be opposed by powerful vested interests.

"Can we meet this challenge? I do not know. But the history of the Massachusetts Association of Boards of Health gives us the ground for a reasonable hope. If you had been present at the first meeting of this Association, could you have imagined that little band of untrained health officers and health inspectors passing from drains and quarantine placards to activated sludge and residual chlorine, to Kahn tests and sera for Type VIII pneumococci, riboflavin and cancer clinics? Perhaps the transition from our present-day administrative health program to a constructive remoulding of the social environment in which we live may be equally possible.

"Civilization and democracy are today on trial. Civilization, as I see it, means richness and fulness and beauty of individual living, and democracy, the attainment of that ideal for all the people, and by all the people through their free and voluntary action. If progress is too long delayed, the temptation to seek the short cut of dictatorship may prove irresistible; but by such a short cut both democracy and civilization are destroyed together. I have no doubt of the ultimate outcome. No one trained by Sedgwick to see the pageant of life from the amoeba in the

rock pool up to the modern society can be a hopeless pessimist. But the process of evolution has its tragic periods of delay and reaction. Europe passed through 8 centuries of intellectual darkness between the years 200 and 1000. If England and France are not successful in their gallant struggle, Europe may face more centuries of the same kind.

"As the most fortunate of all the peoples of the earth, we have a peculiar challenge to meet and our success or failure may well be a determining factor upon other continents than ours. Can we remain undeceived by ideological slogans and penetrate the deceit of those who use the term of 'liberty' to cloak the fact of 'privilege'? Can we keep our tempers and follow the path of reason and experimentation? Have we really the desire to build a society of opportunity for all, such as that of which our fathers dreamed? and have we the patriotism or the Christianity or the sense of justice to realize the desire at some cost to ourselves?

"If the answer to these questions is in the affirmative, we can build a new world in the next half century; and, in that building, the science and art of public health must play a leading part." [3]

Professor Winslow was one to whom the difficulties of great tasks were only added incentives.

Winslow's concept of the relationship between medical care and the health officer's duties is well stated in the following quotation:

"The health officer who has in him the spirit of the pioneers will conceive that one of his primary responsibilities is to plan for putting the vast resources of modern medical science to work in his community. He should have the courage to make the facts of the situation clear to the lay public; and the statesmanship to secure the cooperation of the local medical profession in planning wisely so that quality of service can be insured—as it can only be assured—by the expert—but cooperative direction of the professions concerned." [4]

I have selected from many an excellent statement of Winslow's strategic goals for the decades ahead. In 1945 he predicted,

"In the half century to come, the health officer must not be solely interested in syphilis and tuberculosis, or even in heart disease and cancer. He must, more and more, concern himself with nutrition in its subtle and complex influences upon vigor and efficiency and satisfaction. The absence of vitamins or iodine or fluorine in the diet of a community may seem as important as the presence of typhoid bacilli in its milk supply.

"He must concern himself with housing, in its relations to the optimum physiological needs for warmth and coolness and light; to the avoidance of strain in the performance of household tasks and of the development of a sense of inferiority associated with life in a substandard dwelling; to the elimination of sanitary risks due to vermin and food spoilage and overcrowding; and to the control of the home accidents which kill 30,000 persons a year in the United States. He should lead in the elimination of substandard dwellings and participate actively in the planning for slum clearance, urban redevelopment, and low-rent housing.

"He must concern himself with the living wage and with the provision of a due measure of social security, which is essential to both physiological and psychological health.

"In other words, public health which in its earliest days was an engineering science and has now become also a medical science must expand until it is in addition a social science." [4]

He went on to say:

"I do not urge you to attack the tasks of the future in public health because it will be popular to do so. Nor do I wish to stress the fact that the future status of our profession depends on your answer to the social challenge —though such is the fact. If we continue merely the routine activities of the past, the health officer will be merely a cog in an essential but undistinguished administrative machine; only with a bold approach to meet the new demands of the time shall we earn the sense of real achievement which comes to the pioneer.

"But my real appeal is to your sense of the responsibilities of the high office to which you have been called. To the health administration of a city, a state, or a nation, its citizens turn for leadership. So far as health is concerned, it is to you that the returning soldier will look for a world in which he can live a life worthy of his sacrifice. It is to you that the mother will look for a world in which her children can grow up to the fulness of being. You stand on the watchtower as their trusted guardian. If your eyes are open you realize that the conditions of such a world include more than a safe water supply and a tuberculosis sanatorium and a child welfare clinic and a diphtheria immunization program. They involve also a decent standard of living for all the people in the community.

They include a minimum wage, food, housing, medical care, social security. You have the clear duty of reporting what you see from your watchtower. You should be not only the prophets but the guides into that Promised Land where blossoms 'the tree of life, which bare twelve manner of fruits, and yielded her fruit every month: and the leaves of the tree are for the healing of the nations.'" [4]

Henry Seidel Canby once wrote about another professor at Yale words that fit Winslow:

"Language for him was a garment whose every fold and shade was conditioned by the infinite complexity of truth. An artist in words, he used them, not as words merely, but as the only medium by which a thought world alien to us could be interpreted to minds that feebly but inevitably responded. . . . What he gave us himself was a pattern of exquisite thinking and an idea which we dimly apprehended that all truth must ultimately be beautiful. And also . . . that cold facts could best be imparted in the courtesy of perfect English admirably spoken."

As a final example of the high statesmanship which Professor Winslow possessed, I quote in closing from his memorable address of 1947 called Poverty and Disease. This was his contribution to the 75th anniversary of the APHA. After considering various forms of political organization, such as socialism, facism, and communism, Professor Winslow concludes:

"The spirit of totalitarianism is far more dangerous than its purely economic implications. As I have said elsewhere, if we adopt the methods of totalitarian ideology we are surrendering to the very worst element which is common to both Communism and Fascism. That is what is happening when we demand absolute conformity with the social program of one group which happens for the moment to be in power; stifle discussion, call everyone who differs a Communist and everyone who has ever been associated with any organization in which there was ever a Communist member, a fellow-traveler. Such an attitude abandons reason for ideology, and philosophy for a perverted semantics. It overwhelms empirical evidence in a flood of catchwords. It enthrones emotion above reason, by discovering Un-American art and Un-American Music and Un-American Science.

"The writer has behind him ten generations of New England stock. He learned that the American tradition meant freedom of thought and of speech (up to the limit of legally prosecutable action); that it meant open-mindedness and readiness to try experiments; that it meant initiative in the working out of the problems of society; that it meant experimentation and progress.

"The other road—that of rigid conformity with the theory of a temporarily powerful group—of defining not only what a man must do but what he must think and feel—and with whom he may be acquainted—is the road to what is truly 'Un-American'. This was the technique of the Hitler regime in Germany and is the technique of the Communist leaders in Russia. Pray God, it may never become the prevailing mood of America.

"Our approach today should be that expressed by the first settlers of Guilford, Connecticut, who on June 1, 1639, faithfully promised 'each for ourselves and our families and those that belong to us that we will, the Lord assisting us, sit down and join ourselves together in our entire plantation and be helpful each to the other in any common work, according to every man's ability and as need shall require.'

"Since the days of John Simon, the public health movement has had a history of approximately one century. I have fought in the ranks of the health army for nearly half of those hundred years.

"You and I have determined that men should not sicken and die from polluted water, from malaria-breeding swamps, from epidemics of diphtheria, from tuberculosis. Those battles have been, in large measure, won. We must now determine that men shall not be physically and emotionally crippled by malnutrition, by slum dwelling, by lack of medical care, by social insecurity. If there are better ways than public housing, and sickness insurance, and social security, let us find them. If not, let us move forward on the lines which I have tried to outline above.

"And so, I urge those who do not agree with me to mend their ways; and those who do agree with me to go forward with hope and courage." [5]

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The Etiology and Epidemiology of Schizophrenia

PAUL H. HOCH, M.D.

As his part of the symposium on the public health approach to mental health and illness, Dr. Hoch was asked to tell about known facts on etiology and epidemiology in mental disorders. Looking over the field, he found that to cover it completely would be difficult, therefore, he selected one major mental disorder, schizophrenia, to point up the difficulties and shortcomings attached to our present knowledge of all these disorders.

While other fields of medicine often can augment or even verify clinical diagnoses by other methods—by tests that are independent of the clinical appraisal of the patient—this is generally not true in psychiatry. Although I am fully aware of the claims that it can be done, I maintain that it cannot. Diagnosis of this disorder today depends on a clinical evaluation of the patient, based on objective facts as far as that is possible in clinical work, and this is, of course, never as objective as x-ray or standardized chemical tests.

Gradients of Severity—The early manifestations and symptoms of schizophrenia are not fully known and are very difficult to recognize. This means that most cases are detected only after they have progressed considerably, rather than in the initial phase.

What criteria have been used to collect data on the incidence of schizophrenia? One is able to determine immediately the gross cases that are hospitalized; the other cases cannot be diagnosed as readily, particularly when follow-up data are not available. For instance, we described some time ago a form of schizophrenia which we called the pseudoneurotic form. Many of these patients showed neurotic symptomatology for a long period of time and then a certain number of them became grossly psychotic. These cases are very rarely spotted and very rarely diagnosed in epidemiologic studies, or even in clinical research. However, in the majority of cases, the diagnosis can be made on the clinical level. To be able to make the diagnosis, it is necessary to know the whole psychodynamic structure of these patients which, of course, cannot be done by those doing an epidemiologic study.

The diagnosis of schizophrenia is difficult and complicated if one is not dealing with a gross case. Needless to say, schizophrenia can be and should be diagnosed in patients without hallucinations, delusions, and grossly regressive manifestations. As I have said to students, the janitor of a mental institution can diagnose schizophrenia after four weeks on the job if the patient hallucinates, is deluded, or shows marked regressive manifestations. On the other hand, if the patient shows only subtle manifestations of the disorder, then we are dealing with an entirely different problem. Mild cases of schizophrenia are hard to identify, and the pseudoneurotic form of schizophrenia is particularly difficult.

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Another, the simple form of schizophrenia, described long ago by Kraepelin, is a well known entity in psychiatric schools the world over. It is not easy to diagnose simple schizophrenia if the patient does not show conspicuous clinical manifestations, particularly asocial or antisocial manifestations. The diagnosis is often not made, so such patients are not counted in epidemiologic studies. Observations reveal that many relatives of schizophrenic patients show the disorder in a mitigated way. Sometimes these relatives are nearly as sick as the patient, but for some reason the patient is in the hospital and the relative is not. These persons suffering from schizophrenia who are in close proximity to the admitted patient are very rarely counted, very rarely collected and investigated in epidemiologic studies. This is an important gap to close in our knowledge of the epidemiology of schizophrenia. In addition, I may add that we do not know how many overt or covert schizophrenic patients are present in the community who are not spotted because they have a superficial adjustment to the environment.

Changes in Time—The situation becomes even more complicated when we consider the patients who are not yet "officially" schizophrenic, but who become so in a few months, in a few weeks, and sometimes in a few hours. Is the patient a schizophrenic patient a few hours before the outbreak of the psychosis or is he not? Should epidemiologic studies count gross alterations like hallucinations, delusions, marked regressive phenomena and schizophrenic posturing or something which underlies these gross manifestations? This is an unsettled issue and one which needs much more investigation. Of course, the same difficulty exists when patients show improvement and occasionally even marked improvement. We do not include here patients who can be considered recovered because with recovered patients we do not have the same divergencies of opinion that may occur in patients who show only some improvement.

These improved patients are released from the hospitals and we assume they are all right. But at least in New York State—and the situation is not much different elsewhere—a third of these patients relapse. Should these patients, who showed this improvement and somehow maintained themselves in the community, be included in an epidemiologic study or should they be excluded? I think they should be included because the potential reappearance of the disorder is still very great. But one could emphasize the other side and say that it is really remarkable that only one-third of the patients who were admitted to a mental hospital with schizophrenia show a relapse, while two-thirds of the patients do not. Of course, we will have to decide on a number of years during which we assume the patient can relapse. From our studies we assume that a limit of five years would be suitable for schizophrenia. The relapse rate after five years of fairly good adjustment is far lower than in the first five years after discharge. The majority of relapses occur in the first two years after discharge.

All this indicates a great inaccuracy of our epidemiologic studies as they are conducted today. Therefore we do not know the magnitude of the pool of persons from which our statistics emerge. There are far more schizophrenic patients than hospital admissions would indicate, and if we do not find ways and means to estimate the full number of persons who are in that pool, we are always going to have a distorted point of view. It was agreed that schizophrenia occurs in about 0.85, or 1 per cent, of the population, and this figure is fairly constant even in different countries. But we do not know how constant the total pool of schizophrenics is because the patients who did not seek

help are not included, leaving us with a completely distorted view of the incidence of the disorder.

Diagnostic Variability—The agreement on the diagnosis among well trained psychiatrists varies between 30 per cent and 60 per cent, thus introducing another very important lability factor in studies on the epidemiology of schizophrenia. This can be illustrated by comparing the per cent of schizophrenia and manic-depressive psychosis diagnoses for mental hospital admissions. For instance, in 1926, 13 per cent of the total admissions in New York State hospitals were manic depressives and 26.7 per cent were schizophrenics. In California in the same year, 20.8 per cent of total admissions were manic depressives and 23.2 per cent schizophrenics. In 1936, in New York 8 per cent were manic depressives and 25.2 per cent schizophrenics while in California 12.7 per cent were manic depressives and 21.7 per cent schizophrenics. In a ten-year period population shifts and other factors enter. Nevertheless, it is safe to assume that the marked discrepancy between New York and California is based on none of these factors, but on different diagnostic criteria. In Mississippi, where the population is fairly constant, 7.9 per cent of the total admissions to hospitals (in 1926) were manic depressives and 23.9 per cent schizophrenics. However, in 1932, 25.6 per cent were manic depressives and 19.1 per cent schizophrenics. In 1934 the percentages were 20.7 manic depressives and 21.1 per cent schizophrenics. One year later, in 1935, manic-depressive psychosis dropped to 4.6 per cent and schizophrenia remained the same. Now such variance cannot be attributed to any radical change in the population structure or to any marked economic upheaval or to any sudden migratory changes. The only plausible explanation would be change in diagnostic criteria. In Georgia, the number of manic-depressive psychoses consistently outruns the number of schizophrenics, whereas in most of the states the situation is the reverse. It is difficult to assume that the State of Georgia has far more manic-depressive patients than schizophrenics; but I believe that the difference is mainly based on the fact that diagnostic criteria are applied differently.

These differences in proportions indicate an unreliability in the clinical diagnosis which cannot at present be improved because more objective diagnostic methods are not available. Some feel that clinical diagnosis can be verified or even replaced by psychological tests, but this is not the case. The psychological tests, to which a great deal of attention is paid, may or may not support the clinical diagnosis, but they are not independent instruments, like x-ray or blood chemistry. They are based on clinical data, organized in a different way than the organization used in clinical diagnosis. Because they depend on the clinical data, interpretations of psychological findings have the same labilities, inaccuracies, and subjectivity as clinical diagnoses. It is important to mention this because it is sometimes claimed that there are more exact instruments than clinical observations and follow-up studies. The data available to us today indicate that this is not the case.

Setting Diagnostic Criteria—What kind of statistics are we collecting on the incidence of schizophrenia? The incidence figures we have today include gross cases but omit potential and improved cases. So planning treatment facilities remains more or less guesswork. Some feel that the boundaries of schizophrenia are too extended and that we err if we include cases where the disease is suspected but not verified. Because we do not know where the boundaries are, we have to collect the

suggestive cases as well as the gross ones. Perhaps, if we have these two collections, we will be able to see how the two groups relate to each other and how extensive the movement is from one group to the other.

We will have to review the whole of today's diagnostic structure for schizophrenia. I am aware that this cannot be done satisfactorily until we know something about the etiology. Nevertheless, even though the etiology eludes us at present, we will be able to reorganize properly the diagnostic structure of schizophrenia and will be able to tighten up some of the symptomatology which in the older days was based on very gross manifestations.

The Basic Symptoms—Today we know very little about the etiology of schizophrenia, and we do not know much about the so-called basic symptoms. Eugene Bleuler's assumption that autism and associative impairments are the basic difficulties in schizophrenia is outdated today. Schizophrenia is a disconnection of mental integration and an inability to cope in an integrated, regulative way with stimulation coming from within or without. The details of this inability to regulate and integrate have not been worked out scientifically. It is not clear whether this function is primarily due to a metabolic alteration of the nervous system—which I believe—or if it is due to psychogenic causes, or both. We have a tremendous literature on schizophrenia which, however, skirts around the basic issues for good reasons and concentrates on secondary symptomatology. At times the secondary symptomatologies are confused with some of the supposedly primary ones. At present one can say that the causes of the primary symptoms are unknown and consist essentially of a regulative deficiency.

The second phases are the subtle symptoms of schizophrenia which have been tabulated by observing in a large number of schizophrenics the kinds of intellectual, emotional, vegetative nervous-system and behavior patterns that are displayed before the gross psychosis occurs. This inventory of so-called emotional and other forms of disorder was compared with those occurring in nonschizophrenic individuals. Even if one examined this inventory an automatic diagnosis of schizophrenia would not emerge. Nevertheless, it can be demonstrated that many of these persons show deviations in emotional and organizational behavior long before the actual gross psychotic manifestation. Finally, there would be the subgroup consisting of the gross cases—the patients who are hallucinating, who are deluded, who behave in such a bizarre and odd manner, that the diagnosis is, of course, clear to anyone.

Multiple Etiology?—We really do not know whether we are dealing with one disorder or with a reaction pattern which, like the organic reaction pattern, is a clinical picture that can be produced by several etiologic agents. Most of the clinical and experimental evidence indicates that what we call schizophrenia is a very widespread special form of integrative disorganization.

We could speculate that, from an etiologic point of view, organic psychoses are essentially cortical, whereas schizophrenic psychoses, regardless of their basic etiology, are pre-eminently subcortical impairments, or due to the disruption of the normal relationship between cortex and subcortex. We observe the schizophrenic reaction pattern in a great many individuals and are unable to decide whether the cases have a common single etiologic agent, or are similar reactions, to different etiologic agents.

Treatments Reduce Severity of Symptoms—It was pointed out that our studies often are not really collecting statistics on schizophrenia; we are collecting data on schizophrenia in the

state of a psychosis: symptoms which can be called psychotic. This is similar to collecting data on the incidence of diabetes from cases showing gross manifestations of the disorder while ignoring the milder forms. I am sure we need far more data on how a schizoid becomes schizophrenic.

Actually we have not a single treatment available today, either organic or psychotherapeutic, which affects schizophrenia qualitatively. All the treatments we have affect schizophrenia only quantitatively. The very high relapse rate clearly indicates this to be the case. Whether patients are treated with shock, lobotomy, the new drugs, psychotherapy or psychoanalysis, a high percentage relapse, sometimes unexpectedly and rapidly. This is known by those experimenting with somatic treatment on a large scale. Most psychotherapists and analysts admit privately that symptoms can be improved at least quantitatively, but that complete reconstruction is not achieved. However, the literature is not as outspoken regarding the effects of somatic treatments for schizophrenia. Not only do we need better criteria for diagnosis, but we also need far better criteria than we have to judge improvement. I am not referring to those cases that genuinely recover, but to the more common so-called "improved ones." Many patients adapt themselves to their environment while often remaining as sick as they were before. Or one may turn it around and say that often the environment for some reason adapts itself to a schizophrenic who remains as sick as he was before.

This raises a very important issue, namely, how can this basic process be evaluated when we have no criteria as yet? There are many new experiments in hospital management of schizophrenics or clinical management of schizophrenics. Some are very popular in other countries, especially in England. There is an open-door policy for the hospital, self-management of the work of the schizophrenic, and so on. We do not have any data yet on how far this matter really influences recovery. It produces a more human treatment of patients, but investigations are needed to find out what makes a schizophrenic patient who is quite sick adapt himself to an environment and what makes an environment adapt itself to a schizophrenic.

In many countries there are no facilities for the treatment of these patients; therefore, the patients remain outside. They do not receive clinical care or day hospital care. They do not receive any care at all. We have very little data on how psychotic persons in those countries really adapt themselves to an environment and how the environment adapts itself to them. It is interesting to note that if an undeveloped country opens a mental hospital, it is immediately filled.

Prevention—Prevention is as unclear as the etiology of schizophrenia. I do not know of a single, reliable study showing that we can prevent something when we do not know what it is. Nevertheless, a great deal is written on the prevention of schizophrenia with little statistical data to back up the claims made. I am fully aware of the work and of the literature which points out the autistic patterns in children who are withdrawn, or are rejected. It is a good idea to collect patterns of withdrawal, patterns of rejection, and of autism, but I do not think that we have reason to believe that trying to influence these patterns will prevent the individuals from developing schizophrenia later on.

All this is known to you, but I wanted to refocus attention to the immensity of the problem we face. Those who deal with it on the public health level, should be more clearheaded about it and their judgment should be more clear on it than some of the clinicians whose ideas and judgments are justifiably clouded

by purely clinical and therapeutic considerations. I have not mentioned all these facts to be pessimistic or defeatist, but we should know the facts. Neither should we criticize those who try to cope with these problems pragmatically and empirically because we all are in the same boat. Nevertheless, it is necessary to sharpen some of our tools and to deal with this problem more effectively even before the etiology of the disorder is known.

Summary

Schizophrenia is one of the most important mental disorders from a public health viewpoint. Our knowledge of etiology and epidemiology is inadequate; schizophrenia may be due to a single cause or be the product of several different causes. Epidemiologic studies have concentrated too much on the severe cases only; we need to know more about the epidemiology of the less obvious cases. Such studies are difficult because: (1) it is hard to specify objective diagnostic criteria; (2) competent psychiatrists vary in their diagnostic judgment; and (3) there is a gradient of severity.

Recent studies have shown that the older view that schizophrenia is basically an autistic disorder with associative impairments should be replaced by a recognition that schizophrenia consists of an impairment of capacity to integrate inner and outer stimuli in a repetitive way, probably due to damaged subcortical functioning, as a consequence of metabolic disturbances, psychogenic forces or both.

Public health preventives can focus attention on the important problems, unencumbered by the day-to-day preoccupations of the clinicians who must worry about the many secondary difficulties schizophrenics have. Today's treatments can often change severe cases to mild cases; but no one can properly claim an ability to terminate schizophrenia. Prevention of schizophrenia although frequently spoken of, is not possible with today's knowledge.

1958 Health Forum, NACLHD Meeting

The National Health Forum and 10th annual meeting of the National Advisory Committee on Local Health Departments, both of the National Health Council, will be held the third week of March, 1958, in Philadelphia. The forum theme—health problems incident to "urban sprawl"—and NACLHD goals of finding ways in which health and other citizen groups can work together in every community to obtain those health services that are the responsibility of local government are closely related. Abel Wolman, professor of sanitary engineering, Johns Hopkins University, is chairman of the 1958 Forum Committee. George James, M.D., deputy commissioner of the New York City Department of Health, is a member of the Forum Committee and chairman of the NACLHD's annual meeting committee.

We Do Not Work Alone

ROBERT E. MYTINGER, M.P.H., F.A.P.H.A.

Sociologists tell us that what people have had a real hand in planning they will not lightly see put aside. Here the principle is usefully applied to matters of environmental sanitation.

In recent months, two related questions have occurred to me with increasing frequency: Are all of our sanitation activities aimed at things which only we can successfully look after for people? Are there areas where citizens can better assume responsibility for helping to control their own environment? Speculating on these questions has made me wonder whether we might be on the threshold of a step upward, perhaps the greatest step, in the historic development of the "environmentalist" as a guardian of the public health. No longer does it seem that the sanitarian must battle alone against the unhealthy forces of our environment in a single-handed effort to provide clean air, and water and food and shelter for people—no longer do we need to work alone, for among the many wonders in the free nations of the world in this social age is the developing awareness of each citizen to his responsibility toward the health, well-being, and prosperity of his fellows.

Each of our previous developmental steps has achieved great gains. I believe that the new approach possible today promises spectacular additional progress. If you consider how public health work has been developing, perhaps you will agree.

In the more or less "unenlightened" centuries before the present one, government gradually identified certain things it could do for people to protect their health as scientific knowledge increased. Street cleaning may have been the first governmental sanitary activity closely followed with such measures as establishment of protected water supplies, sewage disposal facilities, public refuse and garbage collection. These all had one thing in common. They could be performed for the public by an official agent, and it did not matter very much whether the public understood what it was about. The public official could handle it with his own staff.

As our understanding of disease grew, and the scope of sanitary problems broadened, this situation changed a little. It became obvious that members of the public would have to take action in connection with some problems, either for their own protection or for the protection of their neighbors. To meet these newly found needs, our first recourse was to law. Ordinances were passed relating to quarantine, restaurant inspection, the use of a common drinking cup, safe foods, compulsory vaccination, housing standards and other matters. And where the law was not obeyed, legal action was undertaken. As Calver [1] and others have pointed out, this procedure worked in part, but not adequately—so we next tried education. We believed that if we explained why public sewage systems should be built or sanitary privies constructed and public eating and drinking places made to adhere to proper sanitary practices in dishwashing and food service, that all

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would be well and the law could be used as a last resort.

At the same time, we had a comfortable feeling that our educational efforts had a better bite when backed up by the law. We were, in fact, engaged in a type of coercive education. And we still worked alone as officials of the government and employees of the people. But our efforts to achieve our aims through enforcement and education have met with only partial success. Some people listen to the facts of a dangerous situation, but they are slow to change their habits, often slipping back to the old after but a short try with the new. And when we have the law with us, others grudgingly do only the minimum necessary "to get by."

Now we in public health have started to find worth while a new approach that ties in with a startling prophecy that one of our great state Supreme Court judges made recently. His speculation was that when the history of our century is written in the future, this period is not going to be remembered as the age of great wars or even of great political changes—but instead, as the dawn of the age of social consciousness —of a time when free people began to be willing to assume responsibility for the well-being of others around them. And because of this, I believe that we in sanitation may now find it possible to develop a new form of approach that promises tremendously to increase the effectiveness of our efforts.

We are beginning to get away from programs where we alone "carry the ball" on every play. We are discovering a new method of getting people to do things for themselves. This is based on two things—the tried and proved rule that people learn by doing and the psychological principle that decisions which people participate in making usually seem considerably more important to them than decisions that are imposed upon them.

This is not a peculiarity of a few stubbornly selfish people. This country, more than any other, has had a democratic tradition highly encouraging to individual initiative. In an age of social consciousness we are seeing any number of civic, welfare, educational and health organizations moving toward a variety of goals. These are powered by people within the groups who genuinely participate in the planning and achievement of these goals.

Perhaps the broadest evidence in a single field of the effectiveness of this kind of approach has been seen in the 10,000 to 15,000 Citizens Committees for the Public Schools organized since World War II. Groups of citizens in thousands upon thousands of communities have labored to help the schools meet the new needs placed on them. And this giant effort has been sustained in good part because the lay citizens decided on the things that they wanted to do for the schools in their towns. The job could never have been parceled out as bits of assigned work.

In public health affairs, as elsewhere, getting the community to participate is not entirely new. One of the winners of this year's national Samuel J. Crumbine Awards was the Macon-Bibb-Jones County Health Department in Georgia. In addition to maintaining a regular day-to-day program, the sanitarians there developed five measures last year that are going to have an important effect in their city and county for a long time to come:

First, and principally because of the interest and activity of the Macon Chamber of Commerce, the Macon Area Industrial Development Commission and the National Council for Stream Improvement, they saw the passage of a bond issue for the construction of a sewage treatment plant.

Second, they formed a minimum-housing-standards committee of realtors and others which helped to obtain legal

support for a five-point housing redevelopment program.

Third, they assisted in the creation of a county planning and zoning commission.

Fourth, they formed a nursing home committee to help guide nursing home sanitation practices.

And finally, through the active assistance of local garden clubs, they saw the beginning of the end of open garbage dumps in the county.

Every one of these advances was achieved through citizen groups. Macon is obviously finding that it pays to throw the ball to someone else when you can.

The Tulsa City-County Health Department, also a Crumbine Award winner in the field of eating and drinking sanitation, made their longest gain with a "hand-off" to the Tulsa Restaurant Association. When that department felt the need for a health educator to organize a new food sanitation training program, funds could not be found in the budget. The department wisely took this problem to the local restaurant association, where a special committee was appointed to investigate needs and possible solutions. This resulted in a restaurant association recommendation that local licensing fees be increased in an amount sufficient to permit the addition of the new Health Department staff member, a staff member whose work would be directly valuable to the restaurant operators. This same group went further in endorsing a plan for compulsory written examination tied in with sanitary training for all food workers in Tulsa. This testing has gone on at the rate of about 500 people every month, and in the first nine months of operation, 3,600 food handlers qualified themselves, thanks to the restaurant association's action. Tulsa, like a good many other departments, has found that it pays to get other people interested and involved in its projects.

Dr. T. F. McGouch, health director in Alexandria, Va., has suggested some rules whose first letters help me to remember a principle. They spell "I.L.O." —I Lose Out.

I—"I" is the word that can make a picket fence that cuts off any sanitarian who uses it too much.

L—The Lone Wolf does not—or cannot—share with others.

O—One man can multiply his harvest many times by getting others into the act.

We recognize that while there will always be specific laws to enforce and maintenance programs to continue, there are situations that can never be reached by laws. Is there a city where we cannot find a bubble fountain in the town park or even in a public building, used indiscriminately by dogs, babies, and town patriarchs, for drinking and other purposes as well? Is there a needed sewer line or modern sewage treatment plant that will not be provided because too few support the bond issue? Is there a chance the home-prepared salads for next Saturday's church social will not be entirely safe? Perhaps we should pause now and ask again, "Are these the things that we can look after for people, or are these some of the areas where citizens must assume their fair share of responsibility for helping to control their environment?"

If we agree that many aspects of environmental control are properly the responsibility of the public itself and that the public is more community-minded than ever before, what then are the ways of achieving teamwork between the health department and the public? Are there existing groups that would be useful to us? There are a number. They might be listed in various ways, but five categories would include them all: (1) official government agencies; (2) voluntary health groups; (3) civic service organizations; (4) coordinating-type agencies; and (5) the unaffiliated body of citizens who have in-

terests in common with certain of your aims. Each group has a different health orientation. And each has a different potential value for you.

In every community official agencies, other than your own department, can be found with an interest in some aspect of environmental health. Farm bureaus and farm agents are most certainly concerned with rural health and particularly with rural sanitation; local and state liquor control agencies with the sanitation of bars and taverns; departments of education with adult education of all kinds. With these people, there are cooperative arrangements which probably have been made in some of your communities. As an example, Westchester County in New York and a number of other communities have found it worth while to involve their Boards of Education in the sanitation training of food workers, the teaching in these cases being done by accredited instructors, prepared with a knowledge of the technical aspects of the subject.

In the second group, the voluntary health organizations, each is of course concerned with its own specific health problem, but each could be led to see the environmental factors that either contribute to the evil they fight or can be used to mitigate their problem. As just one example, we know that cancer control and antituberculosis groups are concerned with air-borne pollutants in the etiology of these diseases, but rarely do they concern themselves further with their source and control. Like most specialized people, the voluntary health groups are apt to overlook the broader environmental relationships. The sanitarian in this age of cooperation has an opportunity to see that the appropriate related factors in environmental health are considered and treated by these agencies as a part of their over-all programs and as a needed arm of assistance for him.

Perhaps the greatest potential for community help lies within the third category, the fraternal, service and religious organizations. Since such groups are often project-oriented, they are apt to be dedicated to a series of specific operations rather than to continuing programs. But with health department stimulation and encouragement, their many community service actions can be enriched by attention to the sanitary aspects of their otherwise purely social, moral, or welfare programs.

Early this year the City Health Department of Bismarck, N. D., inaugurated an area-wide program to improve living conditions in a blighted part of this city where a large percentage of the structures were substandard. Members of the department's staff gave talks on this problem to clubs, PTA's, and homemakers in the area, and from these a move for a self-improvement program developed.

From subsequent meetings of these newly concerned groups, they collectively formed an organization called the Bismarck Home Improvement Association. Their goal was to encourage improvement of the nearly 500 residences in that area. As a result of the activities of the new association, 384 persons agreed in writing to improve their homes and at a meeting conducted last fall, it was reported that a large percentage of these individuals have completed or nearly completed their voluntary undertaking. As a by-product of the association's interest, a new housing ordinance was enacted to finish the task of improving property owned by absentee landlords and uncooperative individuals.

The coordinating-type of organization, the fourth in our list of existing structures, might be a local health council or a federation of civic or business organizations. The sanitarian favored with such a group in his community may consider himself lucky, for here he has a ready-made organization, skilled

in bringing groups together for common action.

In Milwaukee, the Junior Chamber of Commerce and the local Academy of Pediatrics became concerned about the risks of poisoning in the home, particularly of children. With the aid of the local Health Council together with the Medical Society and hospitals, a plan was jointly conceived and carried through which put volunteers into supermarkets during the busy shopping hours to distribute specially prepared material instructing mothers where to store household poisons and cautioning against such practices as keeping kerosene or paint removers in used soda pop bottles. Through such coordinated group action the citizens of Milwaukee taught one another the facts of this complicated and entirely citizen-controllable environmental health subject.

Our fifth and final category, the unorganized citizens, is not a group at all until you make it one. Although these people do not start out with a ready-made pattern of action, the St. Louis Missouri County Health Department, for one, has shown how important the creation of a group from the unorganized residents can be in implementing the sanitarian's effort. The major problem area in their county was about 44 blocks of substandard dwellings in which almost every violation of good environmental sanitation practice existed. Yet the department knew the doubtful effectiveness and prohibitive slowness of legal proceedings to force compliance.

With the help of some of the influential members of the community, a meeting of area residents was called to dramatize the problem. The citizens picked up the idea quickly, and reached an agreement that they wanted the Health Department to make a house-by-house survey. When survey results were announced before a later mass meeting of the residents, a steering committee was immediately named to appoint block captains to supervise the cleaning up of all premises in each block. As this work went forward, corrections were made on all improperly-constructed privies and individual water supplies in the area. Houses were properly screened and provided with proper garbage containers. And because of citizen insistence, regular pick-up of garbage was inaugurated in the area.

Personnel from the Health Department worked actively with the group, but their efforts were multiplied and extended far beyond their own capabilities by the newly organized residents. Perhaps this new group is now working toward the solution of other neighborhood or community health or welfare or social problems, for it is axiomatic that when groups are formed to meet a specific need, once they have tasted success and have actually accomplished something, they nearly always move on into other activities. The sanitarian who keeps in close touch with these groups may find there a key to many of his most frustrating problems.

With respect to all these five categories, I should suggest that we cannot "use" community groups to do any job, as many talk of doing. It is true that it is relatively simple to "use" a group in the sense that you can get them to go on record for something, write a letter about something, even give their names as sponsors for something. But in the end, the health department, and more specifically, the sanitarian is going to end up doing the job, even though he may have the blessing and support of one or more groups. "Use" of groups does not represent anything like the maximum value the sanitarian can obtain from getting the public to do its share of the ball carrying, with his guidance and stimulation, in the health affairs of the community. How then does one get maximum effort from these groups?

To begin with, the sanitarian must establish a place for himself in the community whose citizens he wants to influence. In fact, he has a triple role to play: first, as a citizen of his community, he has a responsibility for membership in community service clubs, for activity in his parent-teachers organization and perhaps for participation in some church activity. Through informal contacts like these, a voice for sanitation should be assured in the councils of such organizations. Second, as an employee of his local government, the sanitarian has the privilege of acting as a staff representative of the health department to various groups, as consultant, resource person or group leader. Third, as a professional worker, the sanitarian has an obligation, aside from his roles as citizen and official, to make certain that the principles which he advocates and the scientific facts at his command are integrated into community thought.

With this basic approach covered, it is then a good time to seek ways in which we can get citizens concerned and active, rather than "used," in situations helpful to the community. This means that they must be given a genuine opportunity to participate in discovering a problem, gathering facts, making decisions and implementing those decisions with action. The St. Louis County Department's work previously described is a perfect example of this kind of citizen participation—where residents voted in a public meeting to have a survey made and then acted promptly on this survey by appointing an over-all committee and a squad of block captains.

It is important to remember that projects run in this powerful way are not totally controllable. When a group of people meet, they generate more ideas than any single person is able to. More important, they are mutually conceived ideas which that particular group becomes willing to work hard to put into effect. The men most experienced in working with groups do what they can to channel and direct the additional force that citizen bodies offer. But even if some of the things done are unavailing or nonessential, the over-all result generally is well worth the effort.

In most of the cited instances, it was comparatively easy to secure public participation because there existed a serious problem that could be readily recognized by the group which was being asked to tackle it. On the other hand, many of the projects we sanitarians dream of are not so obvious. They are a part of an over-all picture that we have drawn as the ideal to be pursued. Lay citizens without our special interest will be slower in these cases to seize upon our idea. Here patience is the keystone of success.

Because he knows that many projects outside his field may lead into others involving the environment, the sanitarian should seek opportunities to encourage and to serve with groups even when they are dealing with matters only remotely related to his concern. Here he bides his time while waiting for the group, under his gentle and subtle persuasion, to come around to considering matters of special interest to him. Full-scale community interest in sanitation will most likely develop through persistent focusing of interest over a period of time upon sanitation aspects of problems. These aspects might be overlooked unless there were someone actively present to hold attention on them.

How this participation of others is achieved we are just beginning to learn. It looks so promising that we believe that we are entering a new phase in the effectiveness of sanitarians in public health for we truly no longer work alone. It is yours to explore how these new approaches can be carried out best in your particular situation.

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Some Observations on Infective Diseases in Russia

KARL F. MEYER, M.D., F.A.P.H.A.

Russian experience in the large-scale use of a wide variety of vaccines not employed in Western countries will prove of interest to all in our field, as will the story of the mushrooming growth of disciplines that older sanitary services tend to neglect.

Under the Czarist regime, cholera, typhus, typhoid fever, smallpox, dysentery, malaria, and sometimes plague broke out in large epidemics and the morbidity and mortality rates were exceptionally high. Contributing causes were the poor social and economic state of the population, the lack of development of medical services, the lack of medical personnel, hospitals and clinics, and the very low standard of sanitation in the country. There was no unified public health department, and there were only one state bacteriologic institute and a few private and public scientific institutes. The government took little interest in the health of the people and did not organize a central health agency with the authority necessary to stamp out endemic foci and to control epidemics. Nor did the people concern themselves about these matters. A vast portion of the area was sparsely populated by nomads, and the rural population was largely illiterate and ignorant, living under primitive conditions and holding fatalistic beliefs.

It is not surprising that when the demoralization incident to World War I was followed by revolution and famine the epidemics that took place in Russia were as extensive as any recorded in history. After the outbreak of that war, the incidence of infective diseases increased; but despite dislocation of large sections of the civilian population before the advancing enemy and the inevitable invasion of large areas by infections, the Russian military and civilian sanitary service proved quite effective. But after the 1917 revolution the whole structure of Russian life was being profoundly and almost instantaneously changed. Conditions favoring the propagation and spread of disease became almost ideal: temporary paralysis and then complete reorganization of all government functions, greater concentration of the population due to nationalization of industry, poverty resultant to prohibition of trade, deficit of government funds, economic blockade, exhaustion of reserves, scarcity of food, devastation and destruction resulting from military operations between conflicting Russian armies.

Professor L. A. Tarasevich, who studied these experiences thoroughly, estimated the typhus morbidity at 20 to 30 million between 1917 and 1922. The mortality rate is not known, but the estimate is 8 to 20 per cent. When typhus was complicated by paratyphoid the rate rose to 14 to 17 per cent. Conservative estimates of the incidence of relapsing fever from 1918 to 1922 exceed 15 million cases. Malaria (mortality rate, 3 to 20 per cent) became

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the most important disease in Russia and spread during the famine throughout European Russia and as far north as Archangel. The greatest reservoir was in Turkestan and the Caucasus. Over six million cases were reported in 1923. In 1921 there were 205,000 cases of cholera, always endemic in southeastern Russia, particularly in the famine area of the Volga Basin; and the case mortality rate for all Russia was 50 per cent. Cases of typhoid fever doubled and trebled, and in 1920 the reported figure was 424,487 cases. Over 166,000 cases of smallpox, with a mortality rate of 10 to 20 per cent, were reported in 1919. During the famine years of the early 1920's, caused mainly by draught, the acute food shortage affected 60,000,000 people; and it was reported that 10 million died from starvation despite the liberal relief contributed by America and England and by the German, French, and Swedish Red Cross. Agencies from outside Russia vigorously attacked the epidemics there with the known sanitary procedures, but it was discovered that many plans could not be carried out because the existing measures against vermin-borne diseases were not being employed due to the inertia of the authorities and a shortage of fuel and even water.

Mass vaccination materially reduced the magnitude of the cholera epidemic in 1922 and protected large numbers of the four million people vaccinated against smallpox. Accurate statistics on comparative morbidity and mortality rates among the inoculated and uninoculated population were not collected. The main purpose—to limit the incidence of smallpox and water-borne disease among famine-stricken people—was accomplished. The example had a marked effect on the medical profession in Russia and stimulated new efforts.

Immediately after the 1917 revolution scientific work almost ceased. Besides the deaths among the scientists themselves in the center of the intellectual life of the country, Leningrad, the hard times decreased the capacity and energy of those who survived. As fighting and famine ceased and order was restored, despite severe privations, science began its rise to a higher standard and it prospered as the Soviet government began its work to unify efforts to protect the public health. They organized the People's Commissariat of Public Health (Narkomzdrav) according to a single plan for the whole union. Soviet medicine from its beginning has stressed prevention. Specialized medical services were widely distributed to the population, and 50 medical institutes were eventually organized to promote sanitation and health protection. The Ministries of Health of the 16 union republics began a network of antiepidemic services to carry out measures to prevent and ultimately "liquidate" epidemic diseases. Exceptional attention has been given to microbiology and epidemiology. These undertakings began in 1922 and have developed slowly.

The Soviet government now grants generous amounts for the development of science. This whole-hearted support, genuine pride, and interest in the scientific institutions has elevated medical science there to new levels. In fact, deification of the natural sciences fully harmonizes with the materialistic ideas of Marxism.

A new generation of well trained workers appointed to positions in the institutes according to merit is growing up and is doing worth-while research work. Very few public health workers or epidemiologists and microbiologists outside the U.S.S.R. have had an opportunity to learn the extent of research conducted there during the past 35 years. Serious difficulties in learning the nature and scope of the Soviet scientific work continue. It is described in their professional journals, monographs and books written in Cyrillic

characters with—but more frequently during the past 10 years without an English, German, or French summary. Except for summaries mostly in two French abstract journals (Bulletin de l'Institut Pasteur and Bulletin de l'Office international d'hygiene publique) there has been little information on infective diseases in the U.S.S.R. Critical summaries and translations of monographs are rare and can be secured only with difficulties. A proper synthesis of the available records is time-consuming and outrageously expensive. Politics has also dammed the flow of the mainstream of new ideas and facts. The U.S.S.R. belonged for only a short period to international health organizations. Between 1934 and 1939, when Russia was a member of the League of Nations, the Weekly Epidemiologic Reports and a few summaries in the International Health Yearbook reflected some of the progress between the 1917 revolution and World War II. Shortly after World War II publications such as "Microbiology and Epidemiology," dealing with "the achievements of Soviet medicine in the patriotic war" gave some information about their control of infective diseases.

When the cold war began the strong ideologic orientation of the U.S.S.R. against cosmopolitanism created an atmosphere in which it was again almost impossible to remain in touch with the scientific advances there, but this isolation has been partly fissured recently. The United States and the Soviet Union have been exchanging scientific information much more freely in the last year. The arrangements for one of the medical research exchanges early this year were handled by the U. S. Public Health Service at the request of the Department of State. A group interested primarily in poliomyelitis and virology —M. P. Chumakov, M. K. Voroshilova and L. I. Lukin of Moscow and A. A. Smorodintsev of Leningrad—came to the United States and visited laboratories in Boston, New York, New Haven, Baltimore, Pittsburgh, Cincinnati, Cleveland, Minneapolis, and Bethesda. The group from the United States visited the Soviet Union under the auspices of its Ministry of Health, and the visitors were men working in microbiology and epidemiology—Dr. Colin M. MacLeod and Dr. Richard E. Shope of New York, Dr. John R. Paul of New Haven, Dr. Michael B. Shimkin of Bethesda and I. We were privileged to confer with over 200 Soviet medical scientists in Moscow, Leningrad, Kharkov, Kiev, Rostov-on-the-Don, and Sukhumi and were given opportunities to become acquainted with their research and concepts of epidemiology and with their preventive measures against infective diseases. Impressions gained from interviews were often sketchy, but the Soviet scientists did supply the mission with many reprints, monographs, and textbooks.

The sources of the information that follows were observation, conversation, and reading, and for the most part the information will be presented as it was given. Personal interest, experience, and time limit this review to a few significant contributions of Soviet medical science and to a few points of general interest to the public health worker in the United States.

Control of Rickettsial Diseases, Cholera, Smallpox, and Typhoid Fever

Haunted by the history of epidemic and endemic typhus, relapsing fever and other infections, one might have a lingering concern that the recent optimistic reports from the Soviet Union are propaganda, but this concern is not warranted. In a well illustrated talk Professor P. F. Zdrodovsky at the Gamaleya Institute, one of the major institutes, while reviewing the position of the rickettsioses [1] emphatically stated that epidemic typhus (under the name "Rick-

ettsiosis epidemica pediculosa") has been eradicated. This success was repeatedly described by others whenever the subject was discussed. With pride they emphasized that Russian investigators had already in 1876 proved, by self-experimentation, the infectiveness of the blood of typhus patients. They had anticipated Nicolle and knew that bloodsucking arthropods disseminated the infective agent. Today only sporadic cases of wholly benign typhus are encountered. These illnesses are interpreted as relapses. Their origin has not been fully established; lice usually are not found, and seasonal occurrence has not been noted.

According to Professor Zdrodovsky, rickettsia serologically similar to Rickettsia prowazekii have been isolated from a number of patients and experimental studies on animals have yielded parasites cytomorphologically and by cross-immunity tests indistinguishable from Rickettsia mooseri. Improved living conditions, education in sanitation, and control of lice according to rigorously tested scientific principles are credited in the "liquidation" of typhus. Immunization with vaccines prepared from artificially infected lice or mouse lungs or from embryonated eggs according to the method of Cox is well understood there, but is not practiced at present.

Typical murine typhus is found on the Black and Caspian Sea coasts during the fall and winter. A disease similar to rickettsialpox, disseminated through Allodermanyssus sangineus and attributed to a rickettsia described as Dermacentroxenus murinus, is observed in the same areas. Q fever is quite prevalent. It behaves epidemiologically like brucellosis and is connected with an analogous infection in cows, goats, and sheep.

Several tick-borne rickettsioses have been studied. Of interest is the observation that the parasite of tick typhus isolated from patients, from six different species of ticks and from several species of local rodents is indistinguishable from the rickettsia causing tick-borne spotted fever in the Old and New World. This genetic kinship is deemed important in the realm of medical geography.

With keen satisfaction and pride the Russian investigators reported that cholera has been eliminated from the Soviet Union for more than 30 years.

Compulsory vaccination, introduced in 1920, gradually reduced the annual morbidity of smallpox to the extent that by the middle 1930's only a few cases were reported. In a book [3] published in 1945 it was claimed that in the foregoing 10 years not a single case of variola had been observed there. Official printed statistics are not available: the last Weekly Epidemiologic Record of the League of Nations for 1937 reported only four cases of smallpox in the Asiatic part of the U.S.S.R.

Stable lyophilized calf-lymph vaccine of high potency against vaccinia is manufactured in large quantity in all of the serum and vaccine laboratories of the 16 republics. The success of their freeze-drying method depends on the use of such stabilizers as 10 per cent sucrose and 10 per cent egg white. The vaccine is reconstituted with glycerine and applied according to the so-called Grothe method, which consists of four superficial incisions and the spreading of the diluted vaccine culture over the scarified area. Professor V. D. Soloview and his staff have planted the vaccinia virus on 12-day-old embryonated hen's eggs and harvested it on the third day thereafter. They observed that by the 319th passage the LD_{50} for rabbits and guinea pigs by the intraocular route and for mice and rabbits by the intracerebral route had increased. Egg-adapted vaccinia virus in the 320th passage, properly lyophilized with egg albumin and saccharose, remained active for one year at 20° C. The immunogenicity has been tested on many thousand children. According to

these tests, six months after revaccination with calf-lymph virus, 89 per cent of the children were immune, and five years after revaccination, 63 per cent were still immune. This type of vaccine has not yet been officially approved by the Ministry of Health.

According to Soviet epidemiologists the morbidity rate of typhoid fever has decreased by 85 to 90 per cent since the disastrous postrevolution days. The disease has not been completely eradicated because even the special anti-epidemic measures have not succeeded in revealing the carriers, nor in rendering them harmless. The epidemiologists emphasized that the infective agent is easily and widely disseminated by flies and other vectors in rural areas. Early isolation of the patients in hospitals is deemed important, and this step is apparently assured by the ready accessibility of medical services to the population. Those in contact with the sick are vaccinated.

As a mass preventive measure, vaccination is carried out every year according to a plan worked out beforehand for each city and district, and many millions of such vaccinations are performed. This measure is believed to be one of the most important causes of the sharp decrease in typhoid fever before, during, and after World War II. Sanitary measures to prevent the spread of infection by water, milk, and foodstuffs are realized on a wide scale because, as their epidemiologists emphasized, no expense is spared and time is taken to complete construction and extension of waterworks, sewerage systems and garbage disposal stations.

Newer Aspects of the Infective Diseases

The main lethal epidemics of the past have been either eliminated or probably reduced to somewhere near the low levels in western Europe. Many factors not readily discernible to the observer on a time-limited mission are responsible for the decline. The government policies seem to be based on predominantly preventive public health philosophy in medicine.

With the decline of the epidemic infective diseases in the middle of the 1930's, new problems arose: the problems of "natural foci" and endemic "nidi" of infections, as they are designated by Soviet epidemiologists and parasitologists. In districts where the inhabitants were otherwise healthy and relatively advanced culturally a number of infections made their appearance. In regions to be developed in order to feed the growing population or to exploit the natural resources required by the rapid development of industrial centers, tick encephalitis, tularemia, recurrent tick typhus, leptospirosis, pappataci fever, brucellosis, and hemorrhagic fever were discovered where cases had not been observed before.

Experience before and during World War II convinced the Soviet scientists and public health workers that rational and efficacious prophylaxis could not be developed without accurate knowledge of how the agent that causes the disease persists in natural foci and by which route it is likely to be transmitted to man. The study of regional epidemiology has, under the brilliant leadership of the zoologist and parasitologist, Academician E. N. Pavlovsky of the Zoology Institute of the Academy of Science in Leningrad, assumed a prominent and scientifically productive position in Soviet public health. Elaborate cooperative scientific research, guided by intriguing hypothesis and achieving striking results rarely reviewed outside the U.S.S.R., merits serious attention.

The existence of natural endemic foci of the zoonoses attracted the attention of Soviet investigators when encephalitis was diagnosed among people who ventured during spring and early summer

into the semidesert and taiga (coniferous forest) of the far eastern regions of the U.S.S.R. between 1932 and 1937. The sparsity of the human population spoke against man-to-man transmission. Therefore the cause of infection had to be sought among animals inhabiting the locality where the disease was found. Field investigations, called expeditions, and clinical and laboratory research conducted by Pavlovsky and by large groups of devoted colleagues recruited from the many institutes of the Academy of Medicine and Science and the Ministry of Health, enabled Academician Pavlovsky to develop his doctrine of natural nidi of the transmissive diseases of man.[2]

This doctrine has served as a powerful guide to Soviet epidemiologists for the past 20 years. Just as Pavlov's researches gave substance to Soviet neurophysiology, so the teachings of Pavlovsky and his school permeate present-day epidemiology in the U.S.S.R. The list of infections with nidi is constantly being supplemented, possibly overly elongated. Even the intestinal infections are included, not entirely with justification.

The views of Pavlovsky related to public health may be summarized briefly: natural enzootic foci of zoonoses may remain undetected or dormant for indefinite periods, in fact as long as human beings do not come into contact with them. They constitute a potential danger, and it is important that their existence and location should be recognized before man becomes infected. Such foci or biotypes are characterized by definite ecologic peculiarities determined by topography, climate, vegetation, and other environmental factors; and these can serve as indicators of the probability that certain diseases will exist there. A knowledge of what Pavlovsky calls "landscape epidemiology" is useful in determining the potential dangers of unknown territories into which man is about to settle for the first time. In desert areas inhabited by burrowing rodents the presence of leishmaniasis or Oriental sore might be suspected. In tropical Africa bush country with big game or river banks with thick vegetation might be expected to harbor trypanosomiasis. If the epidemic possibilities of such localities are anticipated, either they can be avoided or appropriate measures can be taken to protect human beings. Depending on the nature of the foci, the territory concerned may be freed by extermination of the reservoir hosts and vectors. Total destruction of the sources may be time-consuming and too difficult under certain conditions. Specific mass vaccination must then take the place of eradication of the foci. The influence of these concepts on the present efforts of Soviet public health may be illustrated in some examples.

Tularemia—Since 1926, particularly during World War II, mass outbreaks of tularemia in agricultural workers and soldiers led to the organization of epidemiologic investigations. This undertaking was greatly aided by foregoing and thorough surveys of the distribution of rodent pests which destroy ordinary planted or sown food crops, thereby causing serious economic problems in the ancient open steppe and the cleared deciduous forest belts of an area covering eight million square miles.[3] The existence of tularemia in the U.S.S.R. was discovered when the inhabitants of a province of Astrakhan were encouraged to trap water voles with the idea of providing an extra resource in the form of fur during a severe agricultural depression. The immediate result was that more than 800 peasants caught tularemia and some of them died.

In the course of studies initiated on a broad front Soviet epidemiologists recognized that rampant epizootics of tularemia in rodent populations had invariably been followed by mass outbreaks of human illness. The clinical mani-

festations of generalized systemic tularemia were dominated by pulmonary and abdominal involvement. The mortality rate was estimated at 1 per cent. Latent and mild forms were seen, but 80 per cent of the patients required prolonged hospitalization if not treated with antibiotics. Thus tularemia in the Soviet Union differs from the primary localized types usually observed in the United States.

Inhalation of dust stirred up during the use of straw or hay polluted with the excreta of infected rodents or during the threshing of corn which has overwintered in the field is the basic mode of infection. Ingestion of water contaminated by carcasses of water voles has caused many attacks. The infection is dispersed primarily by the water rat and common vole, but not infrequently epizootics among other mouselike rodents such as lemmings and field mice and among gerbils, squirrels and even sheep, dogs, pigs, and camels serve as sources of infection. An interchange of the infective agent between rodents and from them to man is maintained by several species of Dermacentor ticks, mosquitoes, horseflies, and other gadflies.

Prophylactic measures concentrate on mass destruction of the rodents. Trapping and poisoning, building of ditches for catching the rodents, wide utilization of the natural animal enemies of rodents, protection of food products and water sources, substitution of pine and fir needles for straw bedding have all helped reduce the occurrence of tularemia. These measures have been quite effective, but even if certain rodents were continuously suppressed the infection chain in the arthropod vectors would not be broken.

Therefore in recent years elaborate studies under the direction of Professor N. G. Olsufyev [4] and other scientists have led to the development of active immunization with living attenuated strains of Bacterium tularense. Soviet scientists for many years have experimented with a vaccine prepared with killed organisms and injected in from three to even eight steps. The resistance afforded has been usually of a low order.[5, 6] Selecting attenuated, weakly virulent strains, they have prepared vaccines that induce a strong resistance in animals and man. A liquid egg-yolk vaccine has been replaced by a lyophilized preparation of two strains (No. 155 and No. 15). The organisms in this type of vaccine remain viable for at least two years at 4° C. Reconstituted with distilled water, the content of an ampule yields a suspension containing one billion bacterial cells. A drop of the vaccine is placed on the skin of the middle third of the upper arm and is introduced cutaneously by scarification with the aid of a vaccination stylus. The actual dose required to immunize ranges from 10 to 15 million. By the fourth or fifth day a local inflammatory reaction with vesicles the size of millet seeds appears at the site; by the 10th day the vesicles change to pustules surrounded by edema. Scab and scar formation terminates the reaction. Axillary lymphadenopathy and systemic reactions with fever have been encountered in isolated cases. The immunogenicity of the vaccine has been evaluated by means of serologic and allergic skin tests. In some series over 94 per cent of the vaccinated had a strong skin reaction to the tularense antigen three to seven years after a single cutaneous immunization. Numerous records in the monograph by Professor Olsufyev [4] tell convincingly that live tularemia vaccine, dry or liquid, has protected agricultural workers from the disease whenever vaccination was carried out at the very moment when an epizootic threatened to create an epidemic. Active immunization with live vaccine was added in 1951.

Plague—Soviet scientists in every institute reported with pride that plague has been eradicated from the southeast

of the European U.S.S.R. How has this been accomplished? Before this question can be answered the ecology of plague in this part of the world must be sketched. Since 1912 localized plague epizootics among newborn spermophiles have furnished the seed for bubonic and even pneumonic plague among nomads or agricultural workers in the steppe regions. Chronically ill rodents and infected fleas carry the infection during hibernation from one season to another. In the dry salt and semidesert Kirghiz areas epizootics among several species of mouse may forge complicated transmission chains in which fleas not only spread the infection among the voles, but also transmit it to rabbits, spermophiles, and gerbils. Late in the fall and winter infected fleas in feed and a variety of articles such as blankets infect inhabitants of farm houses and occasionally infect camels. The large carcasses offer excellent opportunities for the spread of plague to field mice.

Few scientists outside the Soviet Union are aware of the phenomenal growth of ecologic research of a high order that has furnished the methods of suppressing and controlling rodent populations. Primarily developed to reduce the damage by rodents to crops and the occasional outbreaks of disease the methods have been applied against plague. Extraordinarily extensive use of poison, aided locally by other devices, such as flooding, trapping, and gassing, have served their purpose. Over many years these eradicative measures have been extended to cover a territory of over seven million acres around Rostov-on-the-Don. Spermophile, or suslik, populations have been precipitously reduced. It was reported that in 1934 between 30 and 40 of these rodents could be counted per two acres of land, while in 1955 only one per two acres could be found. These antiplague measures are carried out on a gigantic scale. Over 10,000 persons treated the area with cyanogas; each man covered eight acres. In 1954 and 1955 planes distributed oats treated with zinc phosphide over 2,000 acres in the proportion of 1 kg of treated oats per two acres.

Despite thorough and widespread investigations no plague focus has been discovered since 1937. According to these observations the methods employed "liquidated" the susliks and eliminated the infected fleas known to attach themselves to burrowing animals such as voles and even to lizards. It is understandable that, at least in the European part of the Soviet Union, protective immunization with the avirulent plague strain Girard E.V. 76 is deemed unnecessary. They have observed that single-dose vaccination with live plague bacilli confers an inadequate protection. Two injections seven days apart and a single injection 10–12 months later is now recommended to maintain satisfactory immunity.

Brucellosis—The Soviet literature on brucellosis is extensive and was thoroughly reviewed by Zdrodovsky.[7] Little of the material reviewed is available in translation and thus is mostly unknown outside the U.S.S.R. The medical mission was told that enzootic brucellosis among sheep and goats constitutes a great health hazard to the people who take care of livestock and to the workers in meat combines. The incidence of ovine brucellosis may be judged from the following figures: on one farm 26.2 per cent of the ewes aborted, and subsequent serum and allergic tests proved that 40 per cent of the entire flock was infected.[8]

Strenuous efforts to eradicate bovine brucellosis by methods proved effective in other countries are in progress.[9] In addition to the customary agglutination test, the complement-fixation and allergic tests are used to detect the infection in animals. Supplementary to isolation or slaughter of the reactors since 1955, mass vaccination on a large scale

with BAJ strain 19 and other strains (3, 61, and 68) studied by Soviet scientists are practiced on adult cattle and calves. Observations are now being collected on the protective value of these four strains in the vaccination of sheep.[10] The Soviet shortage of animal products prohibits extensive use of the test and slaughter procedure. Moreover, epizootiologic studies influenced by the doctrine of Pavlovsky incriminate infected spermophiles and mice and have shown that particularly Ixodidae and Argasidae ticks serve as reservoirs of Brucella melitensis, creating and maintaining foci of infection.[11]

These ecologic findings and perhaps other interrelationships unique for the Soviet sheep and goat raising industry render ordinary prophylactic measures exceedingly complex, difficult, and frequently ineffective. To meet the public health problems, specific prophylaxis in the form of active immunization of all people at risk of contact with B. melitensis was approved for national use in 1951.

On the basis of detailed investigations of the immunity mechanism of laboratory animals, especially guinea pigs, Professors Zdrodovsky and P. A. Vershilova selected from the BAJ strain 19 a live weakly virulent variant identified by them as BA, or strain 68, which they have found to be of high immunogenicity and harmlessness.[7] The vacuum-dried vaccine manufactured at the Gamaleya Institute is inoculated subcutaneously in a single dose of 150 to 200 million organisms and this provokes only a slight local reaction. Their extended serologic observations on the vaccinated have shown that the immunity begins to decline between the first and second year after vaccination. Reimmunization by cutaneous scarification, similar to that used with the tularemia and vaccinia virus, restores the resistance.

During a five-year period among several thousand persons vaccinated before the spring brucellosis season and subsequently exposed on sheep or goat farms or in meat-packing plants only 24 mild illnesses were reported. Interestingly the illness developed three to nine months after vaccination, when the immunity evidently had begun to fade. The infection rate in the vaccinated was 0.5 per cent and in the unvaccinated from 5.6 to 29.7 per cent. In over 50 per cent of the vaccinated who contracted brucellosis the illness ran a mild course. On two farms on which 123 persons had been vaccinated 19 contracted brucellosis, eight required hospitalization for one month, and of this group in only one was the blood culture positive. The size of the group exposed to the same risk, but not vaccinated, is not reported; but the incidence of brucellosis was 2.3 times higher than in the vaccinated.[8] Other data are published in the monograph by Professor Zdrodovsky, and in a paper soon to be published in the Journal of Infectious Diseases.

Countries along the Mediterranean basin and in Latin America plagued by caprine brucellosis might profit from this prophylactic approach to ameliorate the ravages of these crippling infections among occupational groups when the usual methods cannot eradicate the reservoirs in endemic areas.

Other Infections—Phenol-killed polyvalent vaccines against leptospira are commonplace, since the basic reservoirs in mice and water rats cannot be eradicated.

Vector control is attempted whenever the ecologic studies warrant it. For example, field tests have proved that Ixodes persulcatus, the transmitters of the encephalitides prevalent throughout the Soviet Union, can be suppressed with "hexachlorane" (Lindane?). The ticks concentrate along the trails of the taiga and in the vicinity of human habitations. Annual and thorough treatment of these localities at the beginning of the period

of tick activity after dormancy with a variety of preparations containing "hexachlorane" is claimed to have completely destroyed the vectors.[12]

This recital of observations by the medical mission may be disappointing to many because it has failed to mention tuberculosis, influenza, scarlet fever, dysentery, and trachoma. If interest has been aroused it may be pursued if effective means can be provided to secure translations of the extensive Soviet literature on infective diseases and if analyses of this literature in English could be made available in concise critical reviews.

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Public Health Management Seminar in Minnesota

The fourth Seminar in "Business Management and Public Health" will be conducted by the University of Minnesota on its "vacation campus," Douglas Lodge, Itasca State Park, Lake Itasca, Minn., September 23–27, 1957. This management institute is sponsored by the Association of Business Management in Public Health. In developing the principles basic to organizational and structural relationships, communications, finances, human relationships, and management methodology in the broadest terms through the group discussion method, the seminar will seek also to meet the expressed needs for knowledge of procedures and technics of the registrants themselves. The faculty will include Thomas Hood, M.D., Kansas state health officer; Harald M. Graning, M.D., medical director, Public Health Service, Chicago office; George E. Williams, M.D., psychiatrist, St. Paul; and Earl O. Wright, chief, Division of Administration, Ohio State Department of Health. Application and information from the Center for Continuation Study, University of Minnesota, Minneapolis 14, Minn.

Food Poisoning Outbreaks Associated with Spray-Dried Milk—An Epidemiologic Study

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Described are a series of nineteen outbreaks of gastroenteritis occurring during a one-month period among school children. Epidemiologic study and a human volunteer experiment implicated spray-dried milk solids. Though bacteriologic and toxicologic tests were negative, clinical and epidemiologic evidence indicated that staphylococcal enterotoxin was the probable agent.

Outbreaks

Between January 23 and February 21, 1956, there were reported 19 separate outbreaks of acute gastroenteritis among children participating in the school lunch program in Puerto Rico. These outbreaks were, with two exceptions, localized in metropolitan San Juan. The outbreaks were reported from 16 schools, three having experienced two such episodes. In all, 775 children of the 4,094 eating at these lunchrooms were ill.

Principal symptoms were those of nausea, vomiting, abdominal pain, and diarrhea without fever beginning one to five hours following noontime school lunch. Although a substantial number of severe cases were taken to municipal hospitals for emergency treatment, there was virtually complete recovery within 24 hours. No deaths were reported.

Epidemiologic evidence pointed to spray-dried, nonfat milk powder as the responsible food and clinical symptomatology and incubation period to staphylococcal enterotoxin as the responsible agent. Although food poisoning related to spray-dried milk has been reported on one previous occasion from England [1] these outbreaks represent the first such related instances of food poisoning in the United States. For this reason the various aspects of this series of outbreaks are presented in some detail.

Investigation

As soon as was practicable after each of the outbreaks was reported—within at most 48 hours—investigations were undertaken by either personnel from the Commonwealth Health Department or by one of us (R.A.). Reports of numbers of children experiencing illness were obtained from school authorities. Randomly selected groups of children, including those both ill and not ill, were individually interviewed about the menu items consumed. To determine the responsible food the epidemiologic statistical method was used [2] utilizing attack rates for foods consumed

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and, conversely, for those not consumed.

It became apparent upon investigation that there was no common source exposure for the children other than foods consumed at the school lunchrooms, but identification of the particular food item presented substantial problems. Conflicting pictures were presented as a result of inaccurate information given by young children who were under varying psychologic pressures to consume "everything" and there were other unforeseen variables which are to be discussed later. Because in some outbreaks there were strong indications that milk was responsible, arrangements were made in early February for the exchange of milk stocks in the San Juan schools for milk stocks most recently received on the island. Despite this exchange, several additional identical outbreaks occurred following the use of the newly distributed milk.

Particular efforts had been made to obtain leftover food from the lunchrooms following outbreaks, but they were generally futile as food items had usually been totally consumed or discarded prior to our arrival. Over 90 samples of 17 foodstuffs that were obtained and submitted to the Commonwealth Health Laboratories were negative bacteriologically and toxicologically. However, on February 14 an opened can of spray-dried, nonfat milk solids was obtained which had been partially consumed at the Sonadora Llana School on the day previous, the day of the outbreak. From this can powder was obtained and a glass of the reconstituted milk was consumed by one of us (R.A.). Two hours following ingestion there occurred the sudden onset of nausea, pirosis, dizziness, abdominal cramps, and profuse diarrhea, the symptoms subsiding in about four hours.

On the basis of this observation and because of repeatedly negative laboratory examinations a human feeding experiment was undertaken utilizing 26 adult volunteers. Reconstituted milk in the proportions and volume used by the schools, i.e., one ounce of powder to eight ounces of water, was prepared in a single container and poured into 13 glasses. Commercially purchased nonfat milk solids were prepared similarly and poured into another 13 glasses. Volunteers were allowed random selection of the glasses which had been coded and comingled. The milk was immediately consumed and the volunteers sent to their respective homes with the request that they eat nothing for four hours.

Marked vomiting, diarrhea, cramps, weakness, and dizziness ensued among five of the 13 who consumed the suspect milk between one and two hours following ingestion. Milder symptoms were experienced by four others in this group. Among those consuming the commercially obtained milk, two experienced very mild symptoms three and six hours, respectively, following ingestion (Table 1).

Studies of samples of this milk conducted by the Food and Drug Administration Laboratories, Washington, D. C., were reported to show a plate count of thirty thousand bacterial colonies and a direct microscopic count of over one billion, per gm of solids. No pathogenic organisms were isolated. Toxicologic studies by the Commonwealth Health Laboratories were entirely negative for metallic poisons. As a result of this experiment, the use of nonfat, spray-dried milk solids was ended and with the termination—despite the continued use of all other foodstuffs in the school lunch program—outbreaks on the island ceased abruptly.

Although the human volunteer experiment would indicate that the suspected enterotoxin was present in the milk powder prior to reconstitution, for further supporting evidence, data were gathered at 16 of the schools relating to

Table 1—Summary of Feeding Experiment with Human Volunteers

A. Test Group

No.	Sex	Age	Incubation Period Hours	Symptoms: Vomiting	Symptoms: Diarrhea	Symptoms: Abdominal Pain	Other Complaints	Comments
1	F	37	2	+++	+++	+++	Dizziness, cold sweat, stupor, hematemesis	Hospitalized 3 days
2	F	37	1	+++	+++	+++	Salivation, dizziness, cold sweat	Recovered 24 hours
3	F	22	1–¾	+++	+++	+	Headache, dizziness, weakness	Recovered 24 hours
4	F	37	2	+++	+	+	Dizziness, weakness, pirosis	Recovered 24 hours
5	F	27	2	++	++	+	Cold sweat, dizziness	Recovered 24 hours
6	M	33	—	—	— —	—	None	.....
7	M	33	1	+	—	+	Salivation, hyperperistalsis	Recovered 4 hours
8	M	32	—	—	—	—	Meteorism, belching	Recovered 1 hour
9	F	26	7	—	+	++	Meteorism	Recovered 1 hour
10	F	43	—	—	—	—	None	.....
11	F	38	—	—	—	—	None	.....
12	F	30	—	—	—	—	None	.....
13	M	34	2	—	++	+	Nausea, belching pirosis, malaise	Recovered 4 hours

B. Control Group

1	F	20	6–½	++	—	—	None	Symptoms Occurred after Seeing One of Ill Test Subjects and Persisted About 2 hours
2	F	26	3	—	+	—	None	4–5 Stools Over 8-hour period
3	M	54	—	—	—	—	"	.....
4	F	22	—	—	—	—	"	.....
5	M	43	—	—	—	—	"	.....
6	M	44	—	—	—	—	"	.....
7	F	27	—	—	—	—	"	.....
8	M	52	—	—	—	—	"	.....
9	M	40	—	—	—	—	"	.....
10	M	45	—	—	—	—	"	.....
11	F	64	—	—	—	—	"	.....
12	F	30	—	—	—	—	"	.....
13	M	34	—	—	—	—	"	.....

+++ = Severe ++ = Moderate + = Mild

the time elapsed between reconstitution of the milk and service at lunch. Since the milk is reconstituted with warm water and allowed to remain unrefrigerated prior to dispensing, it might be postulated that if staphylococci were in the powder, a period of incubation might allow production of enterotoxin. However, in nine schools this period of possible incubation was less than three hours and in no instance longer than five hours.

Puzzling at first was the concentration of the outbreaks in the San Juan area almost to the exclusion of other parts of the island. Reconstituted dried milk is consumed in substantial quantities throughout the island and it was felt that the prominent newspaper publicity given the epidemic would have brought additional outbreaks to our attention.

From the map (Figure 1) it is apparent that the schools experiencing outbreaks received their milk from but three of the 14 distributing food warehouses. The San Juan warehouse supplied 14 of the schools in which 17 outbreaks occurred and the remaining two schools were supplied by two different warehouses. The concentration of outbreaks in the San Juan area was determined to be the result of the San Juan warehouseman dispensing to his area primarily the most recently received milk shipments, while other distributing warehouses were dispensing older stock. The two outbreaks related to the Arecibo and Arroyo warehouses followed almost immediately an order in mid-February to all warehousemen requesting that they dispense only the most recently received stocks. A review of dried milk inventories at the various warehouses confirmed this to be the case.

Symptoms, Incubation Period, Age and Sex Distribution

Information obtained by interview of 267 cases at nine schools was pooled for study of the nature of the illness. The incubation period could be determined with reasonable accuracy in 194 cases (Table 2). For the remaining 73 children the time of onset, although less than six hours in all instances, could not be accurately determined. Of the group

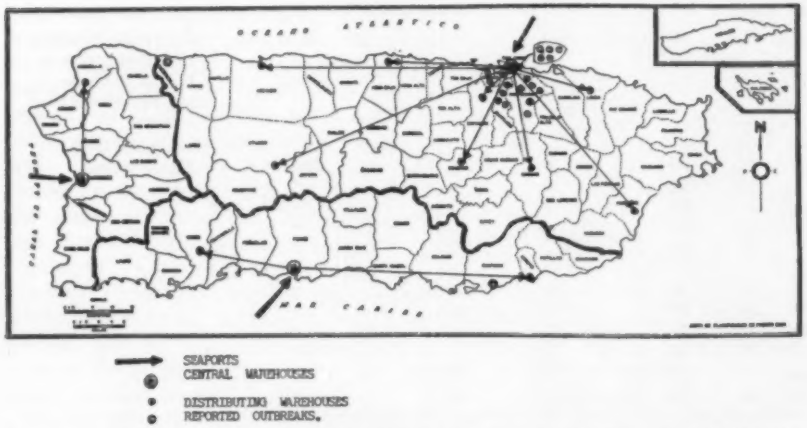

Figure 1—Network of Milk Distributing Warehouses and Distribution of Outbreaks Puerto Rico, 1956

studied the peak occurrence of cases was between two and three hours with 84 per cent having had onsets within four hours. The most frequently reported symptoms were those of abdominal pain and vomiting, followed in order by diarrhea, dizziness, and nausea without vomiting (Table 3).

Attack rates appeared, at first, to vary widely between schools when the total number ill was considered with reference to the number eating in the lunchrooms. However, upon detailed study it became apparent that in many of the schools milk had been reconstituted in two or more large kettles and in so doing milk was used from more than one shipping carton and, hence, probably more than one processor source. The best example of this was obtained at Goyco School, where lunch was served in two shifts, the milk having been reconstituted in two, nine-gallon kettles. The milk from one kettle and half that from the second was used for the first shift; the remainder for the second shift. The attack rate for the first shift was 12 per cent, for the second, 39.6 per cent, indicating significant contamination was probably present in only one of the two kettles.

Because in all other schools where two or more kettles were used, denominator information could not be so clearly defined. In order to analyze age- and sex-specific attack rates we decided to make a pool of data obtained from those schools experiencing outbreaks where children had been served from one kettle only. Information from five schools could be so pooled. Analysis of these data indicates a somewhat higher attack rate among females than males in all age groups. The over-all attack rate was 36 per cent for females and 27 per cent for males. Although there is a suggestion of a decreasing susceptibility with age when the group is considered as a whole, this is not borne out when the sexes are considered separately.

Table 2—Time Interval Between Lunch and Onset of First Symptoms Among 194 Cases in Nine Schools

Incubation Period (Hours)	No. of Cases	Per cent
Less than 1	23	11.8
1	48	24.7
2	56	28.9
3	36	18.6
4	19	9.8
5	8	4.1
6 or more	4	2.1
Total	194	100.0

Table 3—Frequency of Symptoms Among 267 Cases in Nine Schools Studied

Symptom	No.	Per cent
Abdominal pain	228	85.3
Vomiting	187	70.0
Diarrhea	104	39.0
Dizziness	96	36.0
Nausea	24	9.0

Definition of Suspect Lots by Epidemiologic Method

Spray-dried milk solids have been used in Puerto Rican government programs for over 10 years without previously reported trouble. Some four million pounds are now used annually. Recognizing that substantial quantities of spray-dried milk solids from the United States have been distributed throughout the world without previous report of difficulty, we felt it probable that but few of the more than 225 lots of milk on hand were contaminated.

At the time the outbreaks were occurring investigators recorded only identification appearing on the separate

cans obtained at the schools. These cans containing four and one-half pounds were packed six to a cardboard container. However, it was subsequently discovered that this identification did not define the milk processor. Information about which of seven processors might have been responsible could be obtained only by reference to two sets of numbers stamped on the cardboard carton. Further investigation at the schools to unearth suspect lot numbers was impossible for all school milk stocks had been returned to central warehouses.

A more devious and complicated study became necessary. Information was gathered from invoice slips as to lot numbers received in the previous eight monthly boat shipments to the island. Records of milk shipments from the three Puerto Rican ports to the distributing warehouses were obtained and an inventory of milk stocks on hand at these warehouses was compiled.

From the records it was apparent that milk from the first four shipments had been distributed and used more or less uniformly throughout the island. The fifth shipment had not been distributed to any of the San Juan schools. The eighth shipment had been received and held intact. Shipments number six and seven had been distributed by only four of the 13 warehouses and the San Juan warehouse accounted for the bulk of that distributed. Thus two of the eight shipments came under immediate suspicion. These shipments comprised a total of 963,000 pounds of milk in 20 lots. It had been processed by seven different companies. Inventories of these shipments revealed that less than 2.7 per cent of the first shipment and 1.3 per cent of the second had actually been used. Of that used, about 80 per cent had been by San Juan metropolitan schools.

Fortunately, milk stocks returned during the milk exchange from 66 schools, eight of which had experienced outbreaks and 58 which did not, had been retained in separate piles after their return to the warehouses. Lot numbers on the cases revealed that of the 20 lots received in the suspect December and January shipments, only two were represented in the stocks of every school experiencing an outbreak. These were returned from but four of the 58 schools which had experienced no outbreaks. One additional suspect lot number was obtained from a carton which had been retained for storage purposes at a school which had experienced an outbreak on the day milk from this carton was used.

Sometime after completion of the studies identifying information for the code numbers stamped on the cartons was obtained. This information indicated that all three suspect lots had been produced by but one of the seven processing plants.

Comparative Bacterial Plate Count Analyses of the Processing Plants

Samples of all dried milk processed are submitted to the Dairy Inspection Laboratory, U. S. Department of Agriculture, for plate count analysis prior to release for distribution. A sample of milk powder from each processed dried milk batch (usually 3,825 pounds) is tested. Laboratory records were made available to us by the Department of Agriculture relating to lots of milk processed for Puerto Rico between August 15, 1955, and January 12, 1956.

The records of production by the seven processors involved in supplying milk (Table 4) indicate that one company produced batches with substantially higher over-all bacterial plate counts than any of the other companies. Significantly, the three lots of milk previously suspect through epidemio-

Table 4—Reported Bacterial Plate Count, by Batches, from Seven Processors Supplying Milk to Puerto Rico, August 15, 1955–January 12, 1956

Bacterial Plate Count (in Thousands) per gm of Solids	A	B	C	D	E	F	G
Less than 5	50	9	92	61	175	15	77
5–10	74	3	2	25	22	0	0
11–15	23	0	0	0	0	0	0
16–20	40	0	0	0	0	0	0
21 and over	14	0	0	1	–	0	0
	201	12	94	87	197	15	77

logic study were produced by this same company.

Discussion

Gastroenteritis outbreaks of staphylococcal enterotoxin etiology are certainly quite common. However, spray-dried milk solids have been incriminated in but one previous series of outbreaks. These occurred in England and after thorough study implicated milk processed there.[1, 3, 4] Because of the increasing and now very substantial quantity of production and widespread distribution of spray-dried milk, this series of outbreaks in Puerto Rico assumes considerable significance.

Although bacteriologic studies were negative, the clinical symptomatology and incubation period, in the light of negative toxicologic findings, strongly implicates staphylococcal enterotoxin as the responsible agent. Indicative, but not conclusive, food histories suggested spray-dried milk as the responsible food. Confirmation of this was achieved by human volunteer experiment. The unusual geographic pattern of the outbreaks was explainable through particular irregularities of the milk distribution from warehouses. Epidemiologic evidence indicated at least three particular lots of milk from one of the seven processing plants involved. Bacteriologic plate count records of samples from this plant were shown to be clearly in excess of those submitted by the other plants.

Evidence that the staphylococcal enterotoxin was present in the dried milk prior to reconstitution was adduced from the human volunteer experiment in which the milk was consumed almost immediately after reconstitution. This was substantiated by studies at the schools where it was found that in nine of 16 schools the milk had been allowed to stand less than three hours following reconstitution. Anderson and Stone [1] showed that even with reconstitution of the milk in an artificial cream preparation, little staphylococcal multiplication occurs until after a six- to seven-hour period elapses.

Considering that the staphylococcal organism is much more sensitive to heat than its enterotoxin product it seems reasonable to postulate that the negative bacteriologic results obtained in this present series of outbreaks might well be the result of the destruction of the organism but not the toxin. A plate count of milk used in the human volunteer experiment revealed but 30,000 colonies per gm of solids, a figure ordinarily certifying the milk to be "extra grade." That the staphylococcus is

more sensitive to heat than its enterotoxin product is commonly recognized. Anderson and Stone [1] have demonstrated that momentary heat drying in the production of dried milk is insufficient to destroy formed enterotoxin.

ACKNOWLEDGMENTS—To all the generous staff of the School Lunchrooms Division, Commonwealth Department of Education, of the U. S. Department of Agriculture, and particularly to Margot Marchand and Martha Coll.

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New Maternal Welfare Committee Name

The name of the American Committee on Maternal Welfare has been changed to the American Association for Maternal and Infant Health. According to its retiring president, Frederick H. Falls, M.D., the purpose of the change is to point up the development of maternity care from strictly a medical problem to that of a complex professional service involving many specialists other than medicine. The new American Association for Maternal and Infant Health will provide the close integration of all the disciplines, along with the paramount role of the obstetrician—nurse, pediatrician, hospital administrator, nutritionist, social worker, public health nurse, and a host of other workers. The Association further will raise money for education and research in the field of human reproduction.

At the Seventh American Congress held in Chicago, June 7–12, Bayard Carter, M.D., professor and head, Department of Obstetrics and Gynecology, Duke Hospital, Durham, N. C., was elected president. The 8th Congress on Maternal Welfare will be held in 1960.

A Study of Bacterial Flora in Swimming Pool Water Treated with High-Free Residual Chlorine

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High-free chlorine residuals in swimming pool water have proved so satisfactory in maintaining the sanitary quality of the water that less emphasis will need to be placed on bacterial standards if accurate titrations of the residuals are routinely carried out, say the reporters of this research.

Standards of swimming pool operation have been developed to prevent the spread of communicable diseases and to insure the safety and well-being of persons frequenting swimming pools. Of principal importance are the standards related to the bacterial quality of the water and the procedures for purification. Because of its simplicity of application, its economy of use, and its continuing bactericidal action through the maintenance of residual levels, chlorine has been and is being used extensively to control the quality of swimming pool water. Many studies have been conducted to measure the effectiveness of chlorination of swimming pool water under varying conditions and to develop improved methods of application, and much consideration has been given to the amount and type of chlorine residual of the swimming pool water that should be maintained and the choice of organism or group of organisms that should be used as an indication of pollution.[1-7]

The Joint Committee on Bathing Places of the American Public Health Association and the Conference of State Sanitary Engineers in its 1949 report [1] recommended that the amount of available or excess chlorine in the water, at all times when the pool was in use, should not be less than 0.4 ppm or greater than 0.6 ppm. In 1952 this standard was modified by a statement that data were available to indicate that for most effective results these values should be present as free available chlorine.[2] The 1956 report of this committee proposes the acceptance of high-free residual chlorination as the maintenance of relatively high concentrations of free available chlorine (1.0 ppm and above) with accompanying high alkalinities (usually pH 8.0–8.9). High-free residual chlorination, while being relatively new in swimming pool water treatment in the United States, has been used in Great Britain for some years with excellent results [8-10] and has been accepted as a standard recommended procedure in The Purification of the Water of Swimming Baths [7] but under the title of breakpoint chlorination.

To measure the effectiveness of swim-

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ming pool water treatment procedures and the relative freedom of the water from potential disease producing organisms, bacteriologic examinations for the presence of indicator organisms of pollution are recommended. Recent Joint Committee on Bathing Places reports recommend that "all chemical and bacterial analyses should be made in accordance with the procedures recommended in the Standard Methods for the Examination of Water, Sewage, and Industrial Wastes of the American Public Health Association in so far as these methods are applicable to swimming pool waters." [1-3, 11] This statement gives rise to questioning the meaning of the bacteriologic methods that "are applicable to swimming pool waters." Basically, Standard Methods for the Examination of Water, Sewage, and Industrial Wastes [11] uses the coliform index to measure the presence of bacterial pollution. Mallmann,[5] France and Fuller,[6] Ritter and Treace,[12] Mood,[13] and others have investigated the use of streptococci as an index of pollution of swimming pool water with differing results and conclusions.

As early as 1934 Winslow [14] made a strong plea to those using standard methods for the examination of water samples to remember that there was a great divergence of opinion with regard to levels of standards, that the tests were devised by mere human beings like ourselves, and that basically what was of the greatest interest was merely a test—any test which would show the greatest possible difference between good and bad waters. During the following years the path of research in this field has not deviated widely from that which had been criticized by Winslow. Gilcreas [15] in discussing the 10th edition of Standard Methods for the Examination of Water, Sewage, and Industrial Wastes pointed out that the foundation for the bacteriologic examination of water, namely the detection and enumeration of intestinal bacteria, had not changed since the first edition was published. He specifically commented on the inadequacy of the coliform group of bacteria as an index of pollution in swimming pool waters because the most significant bacterial contamination of such water was not of intestinal origin. He further pointed out that the available data on the presence of streptococci in swimming pool waters was insufficient to permit the inclusion of any method for their detection in Standard Methods. This he believed was due to the lack of knowledge concerning the quantitative significance of this group of organisms in such water.

No changes have been made in the reports of the Joint Committee on Bathing Places since 1949 concerning the bacterial quality of swimming pool waters and now with the trend toward the maintenance of higher chlorine residuals reevaluation of this problem seems essential. The stage was set for this reappraisal when in 1950 the Smith College swimming pool was converted from marginal to high-free residual chlorination as a means of correcting some operational problems. It is believed that this was the first intentional use of high-free residual chlorination of swimming pool water in the United States. Since September, 1950, this pool has been operated continuously by maintaining the free residual chlorine concentrations well above 1.0 ppm. The clarity and color have been markedly improved and the density of bacterial flora reduced drastically. The greatest improvement, however, came in the reactions of the swimmers who no longer complained of eye irritation and bothersome chlorinous odors.[16-18]

Preliminary bacteriologic studies of swimming pool water treated with high-free residual chlorination indicated the complete inadequacies of the presently accepted standardized procedures, for repeated samples taken under any con-

Table 1—Operational Data on Swimming Pools Studied

Pool	Type	Capacity in Gallons	Turnover Ratio per 24 Hours	Type of Chlorination	Range of Hydrogen-ion Concentrations (pH)	Range of Chlorine Residuals (ppm)	
						Free	Total
Smith	College indoor	81,000	3	Continuous hypochlorite	8.0–8.2	1.39–3.58	2.36–4.80
Colt Park	Public outdoor	231,000	2	Continuous gas	8.0–8.4	0.24–2.32	0.52–2.68
A	College indoor	177,500	3	Continuous gas	7.6–7.7	0.13–0.39	0.31–0.58
B	Club indoor	28,500	2	Intermittent hypochlorite	8.2–8.3	0.00–0.08	0.00–0.55

dition of pool operation yielded negative results.* A preliminary investigation demonstrated the very low density of bacteria of any type, and particularly of body origin that might survive high-free residual chlorination. By using highly selective media and testing with large quantities of sample it was possible under certain conditions to isolate strains of Micrococcus and Streptococcus, but it was evident that they were not surviving in any appreciable numbers.

Additional studies were conducted but little or no progress was made in studying the types and numbers of bacteria surviving high-free residual chlorination until the membrane filter technic became available for general laboratory use.[23, 24] Exploratory studies seemed to indicate that here was a simple procedure for both qualitative and quantitative bacterial studies of waters having high-free chlorine residuals. Rather than attempting to develop a new medium or to improve one in current use for the isolation of potential pathogens, it was decided to use the membrane filter to make direct bacterial counts of those organisms that survived the treatment of high-free residual chlorination, and to isolate and classify as many of them as was possible. No special circumstances of pool operation were provided and the results reported here are representative of findings on typical days of routine use of swimming pools.

Data from four swimming pools have been included in this report for comparative purposes. The first is at Smith College and the second an outdoor one at Colt Park in Hartford, Conn., which was converted to high-free chlorination in 1952. Preliminary results of bacterial data from these two pools have previously been reported.[19] A third designated as pool A is a representative of the conventional type of indoor college pools maintaining marginal chlorination. The fourth, designated as pool B, is an indoor type operated by a club and is representative of pools treated with intermittent hand applications of hypochlorites, with resultant low values of marginal residual chlorine. Pertinent data, including the pH and the minimum and maximum residual chlorine values obtained during the testing periods on these four pools, are summarized in Table 1.

All samples for bacteriologic exam-

* Unpublished results obtained in the Smith College Bacteriology Laboratory.

ination were collected and tested within a 30-minute period according to recommended procedures of Standard Methods for the Examination of Water, Sewage, and Industrial Wastes [12] for the total plate counts and coliform determinations. Membrane filter studies were carried out in principle according to the tentative procedures of Standard Methods—the amount of sample filtered varied with the residual chlorine level of the water at the time of collection and three media were used, two of which were selective in their action. These were Endo broth * and Slanetz' medium for the isolation of enterococci.[25] The third medium, enrichment broth,* was chosen after preliminary laboratory bacterial studies using pure cultures had shown that typical body organisms, such as various cocci and coliforms grew readily and consistently upon it following filtration through a membrane filter. All samples were incubated at 35° C and were read after 20 hours of incubation using a binocular wide-field dissecting microscope having a magnification of 10 diameters. Total colony counts were made and, when possible, all colonies or representative types of colonies were transferred to trypticase soy agar slants * and, following an 18-hour incubation period at 35° C were stored in a refrigerator at 4° C until Gram stains and biochemical studies for identification could be made.

At the time the samples were collected for bacteriologic examination, separate samples were obtained for immediate pH and residual chlorine determinations. All pH determinations were carried out potentiometrically using the glass electrode method. All residual chlorine values were determined by amperometric titrations using the method of Marks, Williams, and Glasgow.[23]

Standard agar plate counts and coliform determinations were done on all samples collected except on those from Colt Park pool. Only pool B failed to comply with the standards for bacterial densities and the confirmed test for coliform bacteria as set forth in the Joint Committee Reports on Bathing Places.[3] It should be stated that only once during the period of testing was any free available residual chlorine found in this pool and that but 0.08 ppm.

To determine the presence or absence of bacteria of the coliform group by the membrane filter method 200 ml samples were taken from the Smith College pool and pool A, and 100 ml samples from Colt Park pool and pool B. All samples were filtered through membrane filters which were then incubated on pads saturated with Endo broth. No typical coliform colonies as determined by the presence of metallic sheen were observed from any samples except those obtained from pool B. These colonies all proved to be Escherichia coli. Atypical colonies, i.e., those developing no sheen, developed on one sample taken from Colt Park pool and all were identified as yeast organisms. Seven differing types of atypical colonies appeared from samples obtained from pool B, three of which on typing proved to be of the coliform group of organisms. Thus, it appears that not all members of the coliform group of organisms that may be found to have been present in swimming pool waters will produce the typical metallic sheen that is characteristic of this group of bacteria when Endo broth is used. However, all sheen-producing colonies found in this study proved to be E. coli. The results obtained on the samples from the Smith College pool, the Colt Park pool, and pool A indicate that the coliform densities of these swimming pool waters are either extremely low or nonexistent.

An attempt to determine the presence on the membrane filter of enterococcal bacteria in these swimming pool waters by the use of a selective medium was

* From the Baltimore Biological Laboratory, Baltimore, Md.

carried out on all samples except those from Colt Park pool. Samples for enterococcal determination were filtered in 100 ml amounts and Slanetz' modification of the Chapman mitis-salivarius medium was used. Positive results were found only from seven samples of pool B and these were obtained in water that had swimmers in it at the time the samples were collected. Typical enterococcal colonies were isolated from these samples and both Streptococcus fecalis and Streptococcus salivarius were identified. No evidence was obtained which would indicate that streptococcal bacteria could survive in waters which have free chlorine residuals.

The use of enrichment broth proved to be most rewarding of all the membrane filter work. The flora of the Smith College pool water is made up primarily of members of the genus Bacillus as 78.7 per cent of the colonies developing proved to be members of this group, whereas 13.6 per cent were species of the Micrococcus and 7.7 per cent were identified as either actinomycetes or molds. When swimmers were in the pool the Micrococcus flora increased and represented 26.9 per cent of the total isolated. These results are in direct contrast to those obtained from the samples taken from pool A where marginal chlorination is carried out. Here (Table 2) the normal flora as determined in this study was made up of 10.2 per cent Bacillus strains and 85.4 Micrococcus strains. Samples obtained while swimmers were in this pool showed that of the total bacterial populations 92.1 per cent of the organisms were cocci. Thus it would appear evident that levels of free residual chlorine must be kept sufficiently high in order to destroy the body type of organisms, as represented by the genus Micrococcus. A further study was made to identify as many of these Micrococcus strains as possible and the results indicate that the majority of those surviving a high-free residual chlorination were M. epidermidis, a normal parasite on the human skin, while M. pyogenes var. aureus and albus, potential pathogens, were predominant in the samples taken from water with low values of or no residual free chlorine.

Examination of Table 3 will show that the water in the Smith College pool appears to have attained stability in its

Table 2—Membrane Filter Studies Using Enrichment Broth: Types of Bacteria Surviving Chlorination of Swimming Pool Waters (100 ml Samples)

Pool	Use of Pool	Number Samples Tested	Total Colonies Isolated	No. of Bacteria by Type			Per cent of Bacteria by Type		
				Bacillus	Micrococcus	Molds, Actinomycetes	Bacillus	Micrococcus	Molds, Actinomycetes
Smith	Swimmers present	11	123	92	20	11	74.7	26.9	8.1
	None	5	46	41	3	2	89.1	6.5	4.3
	Total	16	169	133	23	13	78.7	13.6	7.7
A	Swimmers present	6	166	10	153	3	6.0	92.1	1.8
	None	7	88	17	64	7	19.3	71.5	7.7
	Total	13	254	27	217	10	10.2	85.4	3.9

Table 3—Membrane Filter Studies Using Enrichment Broth on Sixteen Samples of Smith College Swimming Pool Water

Numbers of Swimmers in Pool	Chlorine Residual ppm		Total Bacterial Colonies per 100.0 ml	Types of Bacteria		
	Free	Total		Bacillus	Micro-coccus	Molds Actino-mycetes
0	1.45	2.58	11	11		
0	1.94	3.05	13	12	1	
0	1.75	2.92	8	6		2
0	2.59	3.76	6	6		
0	2.85	3.81	8	6	2	
10	1.40	2.36	15	12	2	1
12	1.73	2.74	7	6		1
5	1.39	2.60	14	14		
13	2.05	3.22	22	18	4	
23	3.58	4.80	10	6	4	
15	1.74	2.76	7	6	1	
3	1.77	2.92	9	8		1
37	1.87	2.90	18	9	4	5
40	1.73	2.88	7	4	2	1
23	2.26	3.55	10	6	2	2
23	2.36	3.25	4	3	1	

bacterial flora and total microbial population. The numerically low bacterial population as determined by the membrane filter and enrichment broth method varied from four to 22 colonies per 100 ml of sample and was primarily spore-forming rods with a coccal count never exceeding four colonies per 100 ml of water. As long as the free residual chlorine in value is at least 1.0 ppm, neither fluctuations of the free residual level nor the magnitude of the swimming load appears to change this flora. It appears evident that the continuous maintenance of a sufficiently high-free chlorine residual affords complete protection against the survival of any normal body bacteria in swimming pool water.

The bacteriologic studies on the samples from Colt Park pool when enrichment broth was used show clearly in Table 4 the bactericidal action of the high-free residual chlorine. These samples were obtained from three different areas of the pool: the shallow end, the middle portion, and the deep end. In each of these areas differences in the residual chlorine, free and total, were found. The over-all effect of the free residual chlorine upon the total bacterial counts as determined on the membrane filters is marked and is shown in Figure 1 where it is seen that the number of bacteria dropped from 357 colonies to six colonies per 100 ml of sample with an increase in free residual chlorine from 0.24 to 2.32 ppm (Table 4). The first sample was collected immediately following the entrance of 200 to 250 swimmers into the pool waters. These swimmers remained in the pool during the entire sampling period. The difference in time between samples No. 1 and No. 2 was only 40 minutes yet with an increase in free chlorine from 0.67 ppm to 2.32 ppm (caused by an increase in the rate of chlorine application) the total bacterial colony count dropped from 298 to six per 100 ml of sample. Representative colonies were isolated from the mem-

Table 4—Membrane Filter Studies Using Enrichment Broth on Six Samples Obtained from Colt Park Swimming Pool *

Sample	Time of Collection	Location of Sampling Point	Residual Chlorine Values as ppm		Colony Count per 100 ml	Bacterial Types Identified
			Free	Total		
1 †	1:35 p.m.	Shallow end	0.67	0.96	298	Bacillus Micrococcus Actinomycetes
2	2:15 p.m.	Shallow	2.32	2.68	6	Micrococcus
3	2:50 p.m.	Middle	1.47	1.79	10	Bacillus Micrococcus
4	3:15 p.m.	Middle	1.64	1.96	8	Micrococcus
5	2:00 p.m.	Deep end	0.41	0.67	19	Bacillus Gaffkya Sarcina Actinomycetes
6	2:35 p.m.	Deep end	0.24	0.52	357	Sarcina Micrococcus

* Swimming load at all times 200–250.
† Sample 1 was taken five minutes after bathers first entered the pool.

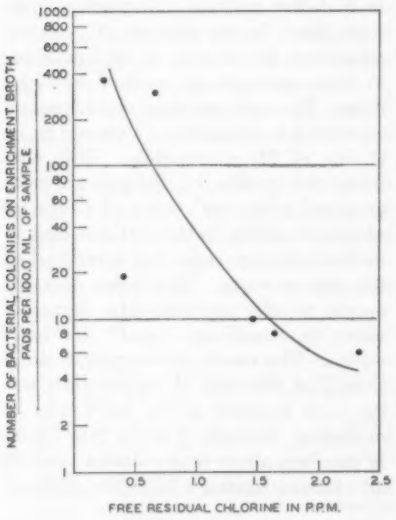

Figure 1—Relationship of the Number of Bacterial Colonies on Membrane Filters to Free Residual Chlorine Levels in Six Samples from the Colt Park Swimming Pool.

brane filters with the higher counts (samples No. 1 and No. 6) and the majority of them were identified as M. epidermidis with some strains of Bacillus and actinomycetes also present. The six colonies obtained from sample No. 2 all proved to be M epidermidis. The second and third samples had counts of 10 and eight colonies, respectively, and from each of which were isolated M. epidermidis, M. flavus, and Bacillus strains. The deep end of the pool having the lowest free chlorine residuals (0.41 ppm and 0.24 ppm) showed an increase in the total bacterial counts within a 35 minute testing period. The numbers of colonies increased from 19 to 357 colonies per 100 ml of water during this time interval. From the lower count was isolated strains of Gaffkya tetragena, Bacillus, Sarcina lutea, M. epidermidis, M. flavus, and occasional actinomycetes, while Sarcina lutea and M. epidermidis, and M. flavus predominated in the higher count. The main-

tenance of a residual of free chlorine is again shown to be highly effective in keeping the total bacterial population at low levels even during periods of peak swimming loads.

The membrane filter studies using enrichment broth on samples from pool B were complicated by the high bacterial density. One (1.0) ml portions of the water were filtered and the results are expressed in terms of colonies per 1 ml of sample. No attempt was made to determine the percentage of the various types of organisms present, but the total counts were made and various representative colonial types were isolated for identification. The number of colonies which developed from each sample varied in numbers from three to too many to count. Among the bacteria classified from the types isolated were: M. pyogenes aureus and albus (predominant types), M. flavus, M. candidus, Neisseria catarrhalis, Gaffkya tetragena, Sarcina lutea, Streptococcus fecalis, Streptococcus salivarius, Escherichia coli, and Aerobacter aerogenes. A few molds and actinomycetes were also isolated.

It has been stated [18] that in dealing with drinking waters the real application of chemistry begins where that of bacteriology ends, for when pollution is so gross that its existence is obvious and only the amount needs to be determined bacteriologic tests are not of value because of their excessive delicacy. In the present study of swimming pool waters having high-free chlorine residuals the same principle may be applied, but in reverse order. The accepted bacterial tests are not sufficiently delicate or precise to determine the relatively few organisms that survive high-free residual chlorination. It becomes necessary to evaluate newer procedures and to determine the actual need for using biologic examinations of water having low bacterial populations through this new method of water treatment.

The membrane filter procedures are not difficult to carry out. A variety of culture media may be used, any group of organisms may be searched for, isolated, and classified, and the exact bacterial flora determined with reasonable accuracy. Yet in view of the efficiency of high-free chlorine in destroying organisms as rapidly as they enter the water it appears that such a procedure is unnecessary and that the chemical titration of the chlorine fractions is enough to give evidence of a safe or unsafe pool water with regard to bacterial densities. Here then is a type of test which would meet Winslow's criterion for determining a safe water.

There has been no attempt in this present study to define or obtain a critical limit of free residual chlorine with regard to its action on any group of bacteria that might enter the water from the swimmers. It does seem clear, however, that when the chlorine residual is maintained sufficiently high as is done in high-free residual chlorination practices there is no danger of resistant organisms developing or accumulating in large numbers as residual bacterial flora. The most resistant organisms encountered in this study all proved to be strains of M. epidermidis. This confirms the results of Seligman [24] who proposed a "coccus" index of 15 per ml of sample which he claimed was easy to maintain in waters having a residual of 0.4 ppm or more. This index does not appear to offer any particular degree of safety in classifying "good" or "bad" waters. The results of the present study show that although M. epidermidis was the most resistant of the body type of organisms isolated, it never was found in numbers above four colonies per 100 ml of water having a high-free residual.

Conclusions

Swimming pool water which has a high-free residual chlorine has been

demonstrated as having a low bacterial density when the membrane filter technic is used to demonstrate surviving organisms. Coliform and enterococcus organisms were consistently absent from these waters when portions up to 200 ml were tested. When the free residual chlorine value was 1.0 ppm or higher, the bacterial density on the membrane filter was not greater than 22 colonies per 100 ml of sample when enrichment broth was used for incubation. The numbers of swimmers in the pool does not appear to be a factor in determining the numbers of bacteria which survive high-free residual chlorination.

It is therefore concluded:

¶ Levels of high-free chlorine residuals are easy to maintain regardless of the swimming load.

¶ High-free residual chlorination of swimming pool water provides a water which has minimal bacterial density.

¶ The organisms surviving high-free chlorine residuals are those of the genus Bacillus and Micrococcus. The latter represent organisms of body origin and M. epidermidis, a normal skin parasite, was the predominating species. It, however, was never present in concentrations of more than 4 colonies per 100 ml of sample.

¶ Less emphasis need be placed on bacterial standards for swimming pool waters having a high-free chlorine residual if accurate titrations of the chlorine residuals are carried out routinely.

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Industrial and Community Services Promote Family Health

I—A Plan for Action

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A variety of examples are offered here revealing the ways in which some community health departments, voluntary health agencies, and industrial health services are exploring possibilities in joint efforts to meet the modern-day health needs of all the people. These are four of the papers, necessarily abridged, that were presented in a symposium.

It is unlikely that very many individuals in public or community health would seriously question the positive sense of our subject: "Industrial and Community Services Promote Family Health." We can be sure, however, that if a quantitative judgment were requested, there would result a wide range of opinion. If, further, it were asked that an assessment be made of the relative contribution of the many elements of these industrial and community services, we would have, certainly, a tremendous confusion.

It is well to observe at the very beginning of this discussion that little has been done in the way of evaluating, in terms of our basic objective, the effectiveness of the various elements that influence family health. We can point to gross indexes, such as the decreasing mortality and morbidity rates, to prove the value of the total effort, but we cannot, with the limitations of our present knowledge and methods, identify the relative merits of the component services. In the absence of clearly defined and objective measurements we must rely on common sense and pragmatic judgments in our attempts to develop programs most likely to achieve our goal of family health. For the present, there is no better testing procedure than a symposium where individuals representing various disciplines, but directed toward a common goal, can come together to exchange experience and ideas.

Many convincing documentations could be provided to emphasize our thesis: "Industrial and Community Services Do Promote Family Health!" These examples would come from a variety of experiences, from programs differing in composition and in degree of organization. This is the natural development, an acceptable experimental approach. But since we lack the specific standards to test the value of a particular effort, and since it is difficult to maintain an objective view of activities with which we are so closely identified, we need each others' "common sense" evaluation from time to time. New and novel methods must not be discouraged, but we cannot afford, with the obvious limitations of time and money and personnel, to wastefully repeat ineffective measures. It seems appropriate then to examine critically certain areas where improvement in the over-all program is essential if we are to utilize our total effort to best advantage. Pertinent items are: the need for an improved climate where greater understanding by industry and by the community will transmute a negative or passive attitude

into positive action; increased cooperative effort among the services, with the development of mechanisms for cross-linking and more effective coordination; and the improvement of methods for evaluating the total effort and, specifically, the components. In these ways we can channel our limited energies, time, and dollars into the most effective program.

The very nature of our subject, with the coupling of "Industrial Services" and "Family Health," would have had limited acceptance a few years ago. The increasing recognition by people in industry that the worker does not divest himself of his family influences when he enters the plant has stimulated an interest in the family and in the health of the family in its broadest sense. The direct cost of the recent expansion of benefits involving the worker's family, such as hospital and medical expense insurance, has added appreciably to the concern of industry in family health. The awakening appreciation of the basic values in the broad area of improved human relations will further divert the attention from the worker, as a solely in-plant entity, to the worker as an inseparable component of the family unit.

Similarly, there has been a subtle, gradual shift in our concept of the broader role of community services. Initially, many of these activities were concerned with a limited segment of our population, the indigent, the sick, or disabled. Contrast with this earlier view the expanding scope of services now available in many communities. The evolution of this change has required a considerable modification of attitude, a recognition that the need for community services should extend to many who, because they were economically able to do so, were at one time expected to find their own solutions to problems.

There still is much to be accomplished in cultivating a climate in which programs for promoting family health can develop and operate effectively. There are many people still who believe that industry has no business in matters beyond the plant walls and who would limit community services to the indigent and disabled. The issues of "paternalism" and "coddling" will be raised and it is proper that we keep these in mind, partly from the fact that some efforts may be needless and wasted, but primarily lest we weaken or depress the essential element of personal responsibility and participation. We have a continuing educational job to keep and improve an atmosphere in which we shall have the necessary understanding and support.

The matter of cooperative effort among the services in the community, as it relates to our objective—family health—merits discussion. In many of our communities there are a wide variety of services—each independently endeavoring to do a good job in a specific area. In many instances their only point of contact is through a Community Chest or United Fund agency at the time of budget scrutiny. In some communities cooperation is encouraged through representation in a Council of Social Agencies. But a real plan or organization for a cooperative and balanced program is rare. Recently, increased pressure has come from many national organizations to discourage cooperative efforts at the community level, particularly in matters of financing. In practice, this policy does not promote community cooperation.

As an example of the value of bringing services together in a unified community structure, I should like to cite

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The following four papers, were presented at a Joint Session of the Food and Nutrition, Occupational Health, Public Health Education, and Public Health Nursing Sections of the American Public Health Association at the Eighty-Fourth Annual Meeting in Atlantic City, N. J., November 12, 1956.

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the experience of our Rochester Health Association. Here are combined the voluntary community agencies for tuberculosis, heart, mental health, nutrition, social hygiene, alcoholism, sight conservation, arthritis, and rheumatism. For each of these activities there is a special committee of informed, interested, and enthusiastic citizens, lay and professional, charged with the responsibility for promoting or guiding that activity. These interests are brought together in a Board of Directors and officers for the whole Association, many of whom serve or have served on the special committees. This organization permits a coordination and balance of these health activities, patterned to the community need.

The value of this coordinated effort is best seen in certain activities of the Association. The Neighborhood Health Program, in selected localized areas of the city, offers health education to individuals in their homes through volunteer block leaders and develops health services in the area by enlisting the aid of interested local citizens. In this program, as in the others noted below, the help of any or all of the special committees is obtained with a selectivity predicated on the particular community needs. Similarly, a School and College Health Education Program reaches all the public and parochial schools and colleges in the community, developing active participation by the pupils.

A Health Education Committee, with a concern for all of the special disease activities and projects, permits an Association interest and action beyond the scope of the designated special areas. It studies the methods and media of health education and the problems involved in motivation, arousing of citizen interest, and promotion of public support.

An Industrial Health Education Committee is one of the most recent additions to the Health Association activities. It is an effective mechanism for reaching the small plant with selective health information. An interesting by-product of the plant visits of the Association representative was a number of requests for information on ways a medical program could be initiated. Acting on these requests the County Medical Society conducted a special orientation course in industrial medicine and the names of the physicians participating form a roster from which interested industries can make their selection. It is difficult to see how these kinds of activity, with the opportunity for reaching segments of the community with special health needs, could function as well if the services were independent or only loosely coordinated.

The larger and more complex our communities become, the more difficult it is to inform the individual or family in need of help how and where a needed service can be obtained. The physician or nurse in industry, in fulfilling an increasingly important role in health counseling, must be familiar with the availability and quality of community services. There is no better way to learn than by taking part in the organizations providing these services. This increasing concern by industry for the health of its people and their families has been noted. The change in emphasis in industrial health programs, from curative medicine to one of prevention, will extend further this interest in the family. Many of the preventive measures, which have added so greatly to the span of life and to the decrease in morbidity from infectious diseases, have been applied with little direct effort on the part of the individual who has benefited. As we turn our attention to the degenerative diseases, we recognize the need for a different approach—one which is more likely to involve the active and considerable effort on the part of the individual. For example, in problems of obesity, or of emotional illness, the whole life pattern must be

considered, with the family relationship of paramount importance. The highest degree of cooperation of private practitioners, industrial health services, and community agencies will be required if significant progress is to be made in the control of these diseases.

The emphasis placed in this discussion on industrial health and the voluntary health agencies must not be interpreted as minimizing the role of public health services. Any effective community program promoting family health will require a balance of these three efforts.

Returning to the subject of the evaluation of the part played by the various services in promoting family health, the recent publication by the Metropolitan Life Insurance Company of the fact that in 1955 the expectation of life at birth among American wage earners and their families, as represented by their industrial policy holders, had risen to a new high of 70 years is truly historic. This event is even more significant when one considers that some forty years ago the average lifetime of these wage earners was about six years less than that for the population as a whole. Now the two groups are equal, a truly remarkable advance for the wage earner when viewed against the significant increase in longevity for the whole population.

Without better methods of analysis we can do no more than speculate about the relative importance of the factors making this advance possible. Those of us who have devoted our lives to the promotion of industrial hygiene will point to the progress occurring during the very period when tremendous amounts of toxic physical and chemical agents were being introduced into industry. The industrial economist will note the expansion of purchasing power and improved standard of living. Voluntary and official health agencies will call attention to their increased activity and the coincidental decrease in morbidity and mortality rates. We need to know what elements have been most effective, what factors we should strengthen, and what should be diminished or discarded. We need a discriminating selection based on specific results. We can afford a moment of justifiable pride in such achievements, but we must return to the reality that our goal, an optimum of family health, is still far ahead of us.

II—Let Us Dovetail Community and Industrial Health Services

BERNARDINE STRIEGEL, R.N.

For the past 10 years particularly, industry and the community have recognized the need to approach family health as an entity. There is increasing reference in the professional literature to the recognition of this need: frequently it forms a topic for professional meetings. Best of all, there is an increasing number of instances where industry and the community are cooperating successfully.

In studying some of the family-centered activities sponsored by industrial and community health organizations, I found that there are excellent examples of coordinated activities. But in a great many more cases, although each has a

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program effective in itself, industry and the community do not seem to recognize their mutual interests and the benefits of dovetailing their activities. I came to the conclusion that there is better coordination of health activities between industries and between community agencies, than there is between industry and the community. This is understandable when we consider the development of community and industrial health programs. A brief review of these developments might be helpful before evaluating some of the examples of cooperation between industry and the community.

Growth of Family-Centered Approach

Most community agencies, both voluntary and official, have been in existence longer than most industrial health services. Most agencies have had some concern for the family as a unit almost from the beginning; most are represented on the local health and welfare council and have had numerous opportunities to plan and work together. Also, in these organizations postgraduate public health or other similar preparation is usually required. This means that staff members often have in common a background of academic preparation, observation, and practice which strengthen understanding and cooperation among them.

Most industrial health services, on the other hand, were concerned in the beginning primarily with emergency care for the individual employee. Aside from the family physician and the hospital, contacts with community agencies were few.

Gradually, the real value of preventing disease, of promoting health, and of rehabilitating the disabled has come to be understood by management and labor organizations, as well as by the industrial physician and nurse. As a result of this understanding, management and employee groups began to support expansion of health services to include these aspects and to provide hospital, surgical and medical group insurance coverages for the employee and his family. Leaders in industrial medicine and nursing began to assess their professional needs so that they could provide the type of expanding service that management and labor would willingly support. Through their efforts industrial medicine and industrial nursing were established as specialities. With management they adopted guiding principles and policies for employee health services. Within each profession desirable qualifications were agreed upon. For instance, a new association of industrial nurses was organized. The American Nurses' Association established an Industrial Nurse Section and the National League for Nursing set up an Interdivisional Council on Industrial Nursing. Locally, industrial nurses organized clubs through which they could meet for discussion and planning together.

Industrial physicians and nurses have shifted their emphasis of service from emergency care to over-all promotion of health. In doing this they have found that, although they look at the employee as a person who has a family and who lives in the community, they can and should provide only a portion of the services required to maintain the health of the employee and through him his family.

At the same time, community agencies are realizing that they, too, provide only a segment of service and that industrial health services must be considered and included in family health plans. We have, then, arrived at a point where both industrial organizations and community health organizations see the need to plan and work together more closely. But the mechanisms for implementing this needed

cooperation are not yet as good as they might be.

What Is Being Done

Let us look at some examples of cooperation and coordination between industrial and the community health services. The examples with which I am familiar fall into four broad categories—joint planning, sharing of services, exchange of information, research and professional development.* Projects in Cambridge, Mass., in Philadelphia, Pa., and in New Haven, Conn., are outstanding examples.

In Massachusetts an Industrial Health Information Service has been established by the Cambridge Community Services and the Harvard School of Public Health. One of the objectives is to assist management and labor in establishing practical and effective plans for in-plant, year-round, health education programs. There they hope to learn how community health agencies can best coordinate their health education programs to serve industry and to determine who should assume the continuing responsibility for coordinated service.

At the present time 16 companies are bringing health information on a regular schedule to their employees. One of the by-products of this project is the preparation of a Directory of Health Information listing community organizations having health materials or services useful to industry. The Chamber of Commerce made this directory available to the executives of 200 member firms. The enthusiastic response to the directory stimulated the Industrial Health Information Service to consider the preparation and distribution of a newsletter to highlight health education activities of cooperating companies and the health education services available from health agencies. Its Progress Report is interesting and worth careful study.

In Philadelphia the Fourth Annual Nurse's Cancer Conference was sponsored jointly by the nursing organizations representing every area of the profession, including the local industrial nurses. These conferences are held annually because of their effectiveness in coordinating community activities.

In New Haven a group consisting of the industrial nurse in the Occupational Health Unit of the Yale School of Medicine, two industrial nurse graduate students, representatives from the local unit of the American Cancer Society, and nurses from 15 industries conducted a cancer education program. Together they arranged for seven special activities over a 14-week period. They showed films, used posters and distributed leaflets, and made themselves available for individual conferences. In evaluating this project it was found that many employees or members of their families went to their own physicians for abnormalities and that 16 had growths—moles, warts, lumps in the breasts, etc.—removed and examined.

Sharing Services

The excellent program in Rochester, N. Y., is, I believe, the best example of sharing of services. Others are projects in Minnesota; Ottawa, Canada; Rahway, N. J.; and Sheffield, Ala.

In some sections of Minnesota the local public health nurse calls on the management of small firms in her district. She discusses health information materials and ways they might be used in the plant. She offers to make home visits to employees with long-term illness or with special health problems. As a result of one of these visits, management called the city health department nurse when a case of active tuber-

* Because my assignment on this panel is nursing service, my examples will pertain primarily to nursing.

culosis was found in his plant. With her assistance arrangements were made for all employees who had been in the plant for the previous two years to have chest x-rays. Also, close follow-up was established on all families of suspected or diagnosed cases. This program is described in the February, 1953, issue of Nursing Outlook.

In Ottawa, Canada, the nurse counselors for federal employees have selected Maternity and Child Health as their staff education topic for this year. Because so many employees continue working until late in pregnancy, the nurse counselors want the guidance they give the employee to dovetail with what she may receive later through the Victorian Order of Nurses.

A good example of sharing consultant services took place at Merck and Company in Rahway, N. J., where the nursing staff, in cooperation with the cafeteria management and the nutritionist in the State Department of Health, arranged a nutrition exhibit at the entrance to the cafeteria. The foods featured in the display were served in the cafeteria during the period the exhibit was shown. Nurses were available to answer questions and to make appointments for personal interviews. The response was excellent and, as would be expected, many non-nutritional problems were also revealed. This program is described in the August, 1955, issue of Nursing World.

The National Safety Council reports that the Electro Metalurgical Company in Sheffield, Ala., is carrying on an excellent home safety program, not only for its employees and their families, but for the entire community. Plant safety personnel give talks at PTA's, schools, and civic clubs and show films covering all aspects of off-the-job safety. Newspaper advertisements, radio programs, and any other available local communications media are also used. The activities are planned by employees' family groups who have established a Home Safety Committee in their homes. Approximately half the employees' families participate.

Exchange of Information

Examples of exchange of information include projects in New Haven, Conn., and Chicago, Ill.

In New Haven the Visiting Nurse Association is providing local industrial nurses with information about its prenatal classes. They know that the industrial nurse is in a position to reach many expectant mothers early in pregnancy. In the R. R. Donnelly Company in Chicago one of the nurses, under the direction of the medical director, keeps in touch with the family, the physician, and the hospital in all cases of employees with major illnesses or injuries. This brings them all together and assures the employee of the company's continued interest in him.

In several firms in various locations employees with chronic conditions, such as diabetes, hypertension, and heart disease are interviewed periodically to see how they are getting along and if they need help in following directions from their own physician. When indicated the industrial physician or nurse discusses the employee's health situation with his physician.

Research and Professional Development

In Minnesota and New York City there are two excellent examples of research and professional development.

A two-year study is under way in Minnesota to determine ways that occupational health can be intergrated into the basic baccalaureate nursing curriculum. Also, the basic principles of occupational health nursing are being included in some postgraduate public health nursing programs. When occupational health is integrated into basic

and postgraduate nursing preparation many of the problems we are discussing today will disappear.

In New York City, through the loan of staff from the Public Health Service, a study is being planned to determine the pattern employees and their families follow before and after seeking medical care. This study seeks to find out to what extent employees are motivated by the in-plant or union health service to go to their family physician or to use community health facilities. How the personnel of these various services plan and work together is also a subject of the study.

Basic Questions We Must Solve

These examples suggest our need to look at our own communities and to examine our own organizations to see what each of us can do to help set up the machinery which would encourage cooperation and coordination. It might help to ask ourselves some basic questions:

¶ In my community is industrial health represented by an industrial physician or industrial nurse on the Community Health and Welfare Council or on the Health Committee of the Community Planning Council?

¶ Is there some place in the community where all employee health services are listed?

¶ Is there a directory of community health and welfare services? If so, is it made available to industrial physicians and nurses?

¶ If there is a joint referral form, has it been brought to the attention of industrial physicians and nurses and are they encouraged to use it?

¶ When a health campaign is planned are industrial physicians and nurses invited and do the plans include the utilization of industrial health services?

¶ Is the public health nurse familiar with employee health services in her area? Does she know the scope of the services provided? Does she find out what health services and benefits the breadwinner has through his employer or through his union? Does the nurse encourage the family to use industrial health services or does she call the industrial nurse directly? When a patient to whom the public health nurse has given home care returns to work does the public health nurse notify the industrial nurse?

¶ When local, district, or professional nursing meetings are planned are industrial nurses invited? Is the program planned to include some of the interests of the industrial nurse?

¶ Does the industrial nurse or physician have at least a telephone acquaintance with the administrative personnel of the community services?

¶ When an employee comes to the employee health service for assistance available in the community does the industrial nurse give him the necessary information? When advisable does she offer to make the first appointment?

¶ Does the industrial nurse attend local, district, state, and national professional meetings where she will meet public health nurses, hospital nurses, and nurse educators? Does the industrial nurse read professional magazines having articles of interest to all nurses? Does the industrial nurse encourage public health nurses, hospital nurses, and nurse educators to visit the plant?

¶ When the employee health service is planning a health education program, for example, does the industrial nurse use community consultants, programs, and materials?

¶ When a hospital patient has an occupational injury or illness does the school of nursing make use of the situation to teach the principles of occupational health? Does the hospital use the student health program or the health program for nonprofessional employees to demonstrate basic principles of occupational health?

These questions can be answered locally. We now need to ask what we are doing or what we can do collectively to evaluate these coordinated efforts and to agree on some basic principles for coordination? Today, as we know, there is increasing interest in evaluating programs. Methods of evaluation are being built into new programs from the very beginning. So let us start now to establish the machinery for evaluation and from our findings provide guidance and direction to both industry and the community. Only by dovetailing our health services can we give families the best possible service with the least amount of duplication or overlapping.

III—Role of Industrial Health Services in Promoting Family Health

HAROLD J. MAGNUSON, M.D., F.A.P.H.A.

The growing significance of industrial health services to the community and the family is intimated in a recent forecast in Medical Economics:[1] whereas about 35 per cent of all physicians now draw at least some income in the form of salary, by 1966 the figure is expected to be up to 50 per cent and to continue climbing. It is predicted that industry will be the major employer of physicians. The statement is made that "from company doctor to future diplomate in occupational medicine, the rise of the physician in industry has been phenomenal. By 1966, he will be a major factor in U. S. medicine."

Forces Contributing to Growth of Industrial Health Services

Why is this coming about? I should like to suggest a few of the factors that may be contributing to this development and that bear directly on the promotion of family health. Some of these we may overlook because we tend to cling to obsolete concepts of the worker and the community of which he is a part.

First, who are the workers in the United States? When we talk of occupational health and its role of promoting the health of the workers—we invariably think of the pater familias, the male breadwinner and head of the household. This stereotype has persisted despite the fact that employment of women has been steadily rising until today women constitute over one-third of all persons employed.[2] Who are these gainfully employed women? Of the 22 million women now at work, 1,352,000 are heads of families with no related persons in the work force. At least 15 million are so-called supplementary workers, helping to boost the family income. Thus, last year, 9.8 million wives worked in addition to several million daughters, sisters, cousins, aunts, etc. All in all, half again more women are at work than were employed 15 years ago.

The implications of this development, in terms of family health promotion through the workplace, are obvious. Through industrial health services one influences directly not only a large segment of the male population but millions of women as well. Mention might also be made at this point of the indirect benefits to the nongainfully employed members of the family. The medical department's case-finding activities prevent the spread of infectious disease not only in the plant but also into the

home. Likewise, educational material and counseling services from the industrial medical department funnel to the home through the worker.

Another factor contributing to the growing significance of industrial health services is the increasing mobility of the American worker, as a result of shifts from one branch of industry to another and from one industry to another. In an article appearing in Fortune [8] three years ago, five leading long-distance moving companies were reported as moving at least three times as many families as compared with the prewar period. One company was moving 10 times as many. The frequency of the moves was illustrated by the experience of one company which reported that one out of every seven of its customers would move again to another state within a year and that seven out of 10 would move within five years. Some idea of the extent of this migration may be obtained from the fact that in a single year, 1951, 7 per cent of all male adults left their county, nearly half moving out of the state altogether.

Especially striking is the fact that the educational level is higher among the migrants than the nonmigrants and that the higher the educational level, the more intensive the migration. This observation may perhaps puncture another stereotype that we may have had of the numbers and characteristics of mobile workers. What bearing does this growing army of transient workers have on the role of industrial medical services in family health promotion? We find some hint of this in the article referred to previously: "In the midst of this constant movement, the problem of personal stability, of a meaningful continuity in his life, becomes pressing for the individual. For this reason some people prophesy that the transients will identify themselves more completely with the Organization (that is, the company for which they work). With the new emphasis on human relations, college-to-grave security, extracurricular benefits, and the like, the ideal of an organization so beneficent that it provokes the total allegiance of its members, has become more than a possibility; it is, in the eyes of some, the constant the individual must have to keep himself on keel in a world changing so fast."

Thus, we are witnessing the emergence of the industry-centered community. The company is becoming not only the workplace but also the focal point of social activities and other enterprises requiring cooperative group action. As employees become more oriented to the company, the workers and their families look to the company for preventive health services, medical care programs, and other benefits to satisfy their wants.

Still a third development is the changing character of industrial hazards. In the past occupational hazards have endangered family health only in isolated instances. For example, workers exposed to nitroglycerine have been known to carry it home on their clothing, causing an epidemic of severe headaches in the family. The major threat, however, has resolved about infectious disease exposures where tuberculosis, for example, might be brought home. In the years ahead, we may possibly expect a greater involvement of family health. The industry of the future, with its emphasis on automation, electronic and chemical operations, and nuclear energy, will introduce a new dimension in health problems. Some of these problems have potentially more far-reaching effects than those of the past. Thus, while chemical hazards in today's industry generally affect only the workers directly exposed, in the industry of

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the future electromagnetic radiation, unless adequately controlled, might possibly affect generations yet unborn in the families of exposed workers.[4]

Contributions of Industrial Health Services to Family Health

How effectively is the industry-centered community meeting the health needs of its members? We find that large industrial and commercial establishments are willing to spend far more on preventive services than the public health department is able to spend. Expenditures of $10 to $15 per worker a year for preventive services are not uncommon, with some plants spending twice as much and more. As the result of the collective bargaining of labor unions, industry has become very much aware of, and responsive to, the health needs of its workers. The industry-centered community is remarkably sensitive to the wants of the consumers, its employee population. Too often, community agencies and the official health departments have been lacking in this sensitivity.

In meeting the worker's demand for health security for himself and his family industry is discovering that the proverbial ounce of prevention is far less costly than the pound of cure. As James Conant, former president of Harvard University, said, "To train enough professionals to keep all the people well by curing disease would involve expenditure of so large a fraction of the income of any nation as to make the cure less attractive than the disease. Indeed, if we tried to do the job today without present knowledge of preventive medicine and public health, the situation would be hopeless." [5]

Industrial health programs are being developed the primary aim of which is not only to prevent disease but also to anticipate it. Formerly limited to preemployment examinations, traumatic surgery, and compensation medicine, such programs today are concerned with the total health of the worker. Thus, the previous preemployment examinations, which were chiefly designed to screen out of employment all but the most physically fit, have given way to the present preplacement examination matching the worker to the job so as to best utilize his abilities and to safeguard his health. Another long step in preventive medicine has been taken by industry in providing periodic health examinations to reevaluate periodically the physical and mental fitness of the worker for his job, to detect early any adverse effects from the occupational environment, and to assist workers in maintaining good health. They are particularly useful in the detection of nonoccupational disabilities before significant signs and symptoms have arisen.

Not only do these examinations promote the early arrest of crippling illnesses, but they also detect and correct numerous minor ailments that can be classified neither as public health hazards nor as insidious threats to the individual's health or life. Because of mild, stationary, chronic disorders, which are frequently accepted as one's lot, many people suffer diminished vigor, efficiency, and zest for living. The detection and correction or eradication of these so-called minor ailments may be one of the more important, although less exciting and dramatic, benefits to be derived from periodic medical examinations.[6]

Need to Extend Services to Small Plants

We may find some gratification in the fact that, qualitatively, substantial gains have been made in the composition of industrial medical services, with greater emphasis on preventive procedures. Quantitatively, however, we are making headway at a greatly diminished pace. The lag in the expansion of employee health programs has been chiefly in the small plants, where 70 per cent of our

workers are employed. As a rule, it has been financially prohibitive for small establishments to attempt to independently carry out their own programs. Only through such devices as banding together with a number of other plants in one arrangement or another have small establishments generally found it possible to provide preventive medical services to their employees. As a result of experimentation of groups of small establishments over the past 15 years, various plans of successful operation have evolved. They provide public health workers with powerful educational and promotional tools in fostering the establishment of industrial health services.

Here is an opportunity for the public health department to work with industry, both to stimulate interest in preventive health services by selling management on their importance and to help develop a tailor-made plan that would be suitable for a given group of plants or establishments. By working through this industry-centered community the health department can add immeasurably to its own resources in the prevention and control of chronic and degenerative diseases. In encouraging and aiding the development of industrial health services the health department is, in effect, establishing numerous branch offices devoted to adult health promotion. Since today's leading diseases and causes of death are centered in the adult, it would seem that the health department can nowhere find a more vital channel for its efforts.

As the result of social, economic, and technologic developments in our nation —among these, the growing number of women in industry, the increasing mobility of American workers, and the changing character of industrial hazards —industrial health services are, to a greater degree, becoming family health services. A new orientation is thus called for on the part of public health workers to recognize and seize the opportunity for family health promotion presented by these services. The nurturing of industrial health services, especially in the small plants where they are notably lacking, can reap the public health worker a harvest of rich and rewarding dividends in the improvement of family health.

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IV—Adapting Health Education Technics to Industrial Realities

HOWARD ENNES, M.P.H., F.A.P.H.A.

✠ Though the story of health education in industry is a long and honorable one, questions must be raised whether traditional approaches and technics are fitted: (1) to the needs and responsibilities of employees and their families; (2) to the structure and procedures of business and industry; and (3) to the

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In meeting the worker's demand for health security for himself and his family industry is discovering that the proverbial ounce of prevention is far less costly than the pound of cure. As James Conant, former president of Harvard University, said, "To train enough professionals to keep all the people well by curing disease would involve expenditure of so large a fraction of the income of any nation as to make the cure less attractive than the disease. Indeed, if we tried to do the job today without present knowledge of preventive medicine and public health, the situation would be hopeless." [5]

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resources of industrial medical and nursing services.

These questions must be probed in the context of the times, put so well by Alan Gregg: "Recently, our way of referring to health and illness has begun to change. We hear less of 'disease' and more of health maintenance, health protection and the health professions. This change signifies a larger horizon, a larger task, but it also aims at a more positive and desirable goal for medicine than the mere absence of disease. The positive goal of maintaining health will be more nearly realized when the public has been educated to ask for it." If we accept Dr. Gregg's challenge in terms both of health education and health administration, public and industrial, we need all to work for a higher level of personal and family responsibility for health behavior.

In recent decades we have moved from passive acceptance of the inevitability of disease and death, to a recognition that cure is possible and prevention attainable. As Filmore Sanford expressed it before the Association Symposium a year ago, we are now moving into a phase of "creative health." Sanford's projection was that "Health will become somewhat less a matter of urgency and more a matter of thoughtful, organized planning. It will become less a matter of structure and somewhat more a matter of function. We will be less concerned with maintaining sufficient health to stay out of bed, to keep up productivity, to pass as normal, and more concerned with maintaining such a level of vitality that each human individual can have the best of all possible chances of pursuing, at his own unique and individual peak of effectiveness, the great adventure of living."

People, we say, are to take responsibility for their health. Possibly the more appropriate is "what responsibility?" The shift to concern with health maintenance (nonemergency, nonurgent matters, from the viewpoint of the individual) brings with it a change in the receptivity to the kind of responsibility so often we presume to put upon people. But let us face it: men and women who are informed, relatively independent, and coping with nonurgent problems are far less likely to respond to "magical fixers"—the professionals with preformed notions of responsibility or actions. When it comes to matters of real importance to them people want to solve their own problems in their own way. They want information, perhaps guidance, a chance to think it out. And once they have reached a decision they are far more likely to act on it. This is a realistic and productive concept of responsibility. It also has a special meaning for those of us professionally involved in health matters, for when we seek to tell people what is right or good for them, to some important extent we are being irresponsible.

Raising the level of personal responsibility for health presupposes, among other things, that appropriate preventive, case-finding, therapeutic, rehabilitative, and related services are available and accessible. It assumes the functioning of educational programs which meet needs in terms of special disease problems and interests and permit the individual intelligently to select the health resources he needs when he needs them. Acceptance of personal responsibility for health on the scale demanded likewise necessitates a rather different emphasis in health educational efforts. Disease orientation will not do the trick. People apparently need to be helped to see that what they want out of life—or out of the day—is conditioned by their state of functional health, which in turn is shaped significantly by their day-to-day behavior.

Where we deal largely with apparently healthy and relatively normal human beings—as basically we do deal in the case of the working population—

there is called for an approach to health education of the public on a positive level. The goal of an effective, positive health education might well be to help people gain for themselves a fuller life in so far as health status and behavior influence its realization.

Pilot Study of 2,000 Plants

Over the past two years we in the Bureau of Public Health of the Equitable have been exploring applications of this approach. One pilot study has involved more than 2,000 business firms. We see an effective technic of functional health education in the idea of focusing on "living interests"—relating accepted and established goals of people as individuals, in families, in communities to patterns of health behavior that help them toward their own particular goals. In practice we have found that a focus on "living interests" offers an opportunity to break through the barriers of preoccupation (usually "indifference" is the word) and to relate health practices to the realities of living.

Just as we need to reevaluate our health education approaches and to adapt them to the realities of today's patterns of behavior, so, too, it would appear prudent to reexamine the nature, operating structure, and procedures of industry and business in so far as these activities are concerned. Similarly, a new look at the nature and extent of in-plant health services is in order, with special reference to the professional resources of physicians and nurses in the area of functional health education.

Rather than to attempt here a systematic review of the currently available evidence relating to these two areas, perhaps we might assault the problem head-on. In light of what we know and suspect today, four potential lines of action may be suggested:

One: The existence of in-plant medical or nursing services offer many opportunities for specific health education at a time when a high degree of motivation is present in the recipient. To the extent that sensitive counseling can be fostered, the educational opportunity can be maximized, particularly so when the counselor makes use of community resources. There is much experience to lean upon in this area, many tools to use—and much room for expansion and improvement. Health education in this sense is an essential of any occupational health service, particularly of the "constructive medicine" variety.

Two: Both the preemployment and the periodic health examination offer significant health education opportunities. These health examination experiences afford opportunity to check bad, and to reinforce good, health behavior. The personal contacts involved are powerful motivating forces—for good, but also for the negative: attitudes and interpersonal behavior of the professionals who carry out the examinations are factors demanding constant refurbishing.

These two areas of activity are almost totally within the control of health personnel. The third and fourth elements would be augmented by the existence of in-plant medical services, but are not dependent upon them.

Three: A program of "living interests" health education—a functional approach—is a practical possibility in many plants, large and small, with or without in-plant health services. This is not, however, a matter of looking at the plant as a cage for a captive audience. Rather, we must recognize that the working man and woman does not respond in a machine-like fashion to professionally dictated health education stimuli; they—as you and I—are complex human beings, with their own interests and values and goals, reflecting family and community influences, as well as the often transient industrial influences.

If the observable general trends have meaning, it seems unrealistic to plan for any extensive acceptance of the type of in-plant health education which involves group discussions and extended participation by employees. Time is a critical factor both in employee and management terms. And it is doubtful if the industrial environment generally is either physically adaptable or psychologically fitted to a high level of educational activity. However, we can go far with a limited goal that aims to catch the eye in terms of present and established interests, that helps to open the eye to new or different ideas and patterns of health behavior, and that stimulates action. Most likely the goal can be approached only with the most simple-to-apply tools that are economical of time and energy, that fit into the pattern of procedures as-they-are in the plant. We can help people at work to see themselves in new lights, help them to select avenues of action for themselves, particularly if we help them to see their own needs and to recognize the resources available to them.

Health Information Exchange

This leads to point four: Are there not grounds, and is there not experience, for developing mutually supportive community-plant health education efforts? To illustrate: Suppose in community X some or all the industrial plants are willing to undertake a "living interests" type of health education effort. Assuming that occupational health and medical matters are properly attended to, the health education program of the plant would aim to stimulate employee interests at personal and family levels, opening eyes to various needs for health and social services not the responsibility of management. Many such needs can be answered by one or another resource in a community—the private practitioners, the hospitals, the voluntary health agencies, social and family service organizations, vocational counseling, rehabilitative services, etc. How many times, however, have you heard of cases where services went begging while people needing services failed to use them? This is one of the major problems—health and social—in any community.

In-plant "living interests"-focused, health education programs could be supported by the combined forces of the health agencies in the community—not, however, by special interest, "shotgun" pleading, not by injecting themselves into the work situation, but by supplying simple, concrete information about community health resources and by supplying specific services (x-ray screening, for example) on request.

Whether the larger stumbling blocks would be in the plants or in the community health agencies is a nice question. This illustration "assumes" community health agency collaboration—a prime essential. A fraction of the time and effort spent in attempting "shotgun" programs in industry by special interest groups in health probably would support adequately a community health information exchange.

Health Department Role

The role of the community health department as a catalyst unquestionably should be crucial. Whether it will be is a matter of leadership, and not least its working relationships with the voluntary health agencies and community coordinating groups, as well as with business and industry. One would not expect, however, the official agency's specialized occupational health or industrial hygiene divisions or units to do this educational job. Rather, working with the community health education staff, they are admirably suited to clear the way for cooperation between industry, labor, and the commu-

nity health agencies. And with "off-the-job" health and safety increasingly coming in for more attention we may depend on continuing interest and participation on the part of the occupational health and industrial hygiene specialists.

Creation of a community central exchange to meet individual and family health informational needs would offer at least the possibility of converting the health education "shotgun" into a "rifle" functioning in terms of powerful individual motivations at the time these motivations express themselves. Furthermore, this could be the means of bringing about closer working relationships between plant management and community agencies. Each could in such a scheme better play a role more nearly fitted to its particular talents and primary objectives and facilities.

And such a scheme could offer a unique opportunity to health agencies for a mutually profitable collaboration with organized labor. Labor's role necessarily would vary—as would those of management and community agencies—according to specific plant and community circumstances. A working partnership of all concerned is, of course, a prime necessity for the simple reason that the common goal is the furthering of the health and well-being of the individuals and families of the community—a goal equally shared by management, labor, and the community and its organizations.

Working in full-bodied partnership, community health agencies, management, labor, and the people as a whole could make strides toward these goals, with the tools and ideas—the creative ideas—there are even now at hand. As Alan Gregg puts it: "The great task in medicine and public health today is to make use of the immense store of knowledge accumulated in the past eight decades, and particularly in the past two or three. So much more might be done than is being done."

Study Health Needs in Rural Areas

How to develop more effective and economical methods of bringing modern public health services to sparsely settled rural areas is the purpose of a study now being carried on by the Public Health Service. The study has begun with a survey of the health situation in Kit Carson County, Colo., which has a population of about 10,000 and a population density of fewer than 10 per square mile. Here there are few local health services, a widely scattered farm population, and farm incomes have been adversely affected by drought and other weather variations. Some 1,500 farm families are being interviewed with the cooperation of the State Health Department, physicians, and county leaders. The study will later be extended to other counties in the Great Plains area.

Enrollment and Placement of Health Education Majors

WARREN H. SOUTHWORTH, Dr.P.H., F.A.P.H.A.

This inquiry into the sorts of preparation offered to aspirant health educators leads to many more fundamental questions of policy and practice than the answers to the questionnaire could satisfy.

This paper is based upon the second report of the American School Health Association's Committee on Professional Preparation in Health Education. It summarizes the enrollment and placement data of health education majors during the three year period 1952–1955.

From several sources * a list of institutions that offer a major in health education was compiled. A letter of explanation and copies of a questionnaire were sent to each of the 72 institutions on the list. A second and in some cases a third contact was made by letter with some of the institutions to encourage complete reporting.

Altogether 48 institutions (67 per cent) submitted information on the questionnaire. Of these 48 colleges or universities: 10 reported that they have no major in health education; two indicated that their health education programs were new and that they had no data for the report period; and one submitted the completed questionnaire too late for tabulation. Two of the institutions submitted complete data for only one academic year. Unfortunately, several institutions which have programs in health education did not provide data for this study.

* See bibliography at end of article.

Recruitment

Recruitment Methods—According to the respondents, the recruiting methods they have employed include: (1) distribution of brochures on professional opportunities in health education to high school guidance counselors; (2) distribution of brochures on the major programs in health and physical education to high school administrators and to interested high school students; (3) distribution of university catalogues and bulletins (including information about the health education major) to high schools; (4) participation of health education staff members as consultants to public school systems; (5) visitation to high schools by health education staff members; (6) participation by health education staff members in university-wide recruitment programs, such as the annual "Careers Day" for high school graduating seniors; (7) contact by letter to all alumni, informing them of career opportunities in health education and asking them to assist in recruiting students for health education; (8) participation by health education staff members in all-university advisement and counseling program; (9) orientation of students to health education through a required freshman course in personal and community health; (10) display of information and materials relative to health education careers in college library, counseling center, and placement office; and (11) announcement of scholarships and teaching assistantships for graduate students in health education.

Recruitment Problems—Some of the problems encountered in recruitment of students for health education are: (1) keen competition among professional groups (engineers, physicians, dentists, nurses, architects, and teachers, for example) for recruitment of high school graduates into specialized college curriculums; (2) lack of opportunities for directly informing high school boys and girls about the wide variety of health careers, including health education; (3) discouragement of prospective health education students through inadequate health instruction during high school or early college years; (4) failure of high school teachers to inform potentially interested students about the opportunities for preparation and employment in health education; (5) need for ways of interpreting more fully the health education major to high school administrators and guidance counselors so that they may, in turn, encourage boys and girls with aptitudes in biologic and social sciences to consider health education as a career; (6) need for better ways of reaching interested college or university students with information about health education before they select their major fields of study; (7) need for orienting faculty advisers and counselors in colleges and universities about the health education major; and (8) scarcity of positions available to graduates with a bachelor's degree in health education.

Undergraduate Health Education Majors

Enrollment—In any one year there appear to be between 200 and 250 undergraduate students who are majoring in health education. Specifically, the enrollments for each of the three academic years are: 238 (1952–1953), 204 (1953–1954), and 235 (1954–1955).

In addition to these enrollments, four institutions report their enrollments in an undergraduate dual major in health and physical education. The total enrollment in this type of major is far above that of the single health education major. The figures for each of the three academic years are: 879 (1952–1953), 957 (1953–1954), and 1,111 (1954–1955).

Majors Granted Bachelors' Degrees—One hundred and eighty-eight undergraduate health education majors were granted a bachelor's degree during the three-year period 1952–1955. The numbers as reported are less than 100 per year: 82 (1952–1953), 50 (1953–1954), and 56 (1954–1955). Among the four institutions offering a dual major in health and physical education, a total of 519 (more than 150 per year) students received the bachelor's degree through this program during the same three-year period.

Placement of Undergraduate Majors—The placement of 412 health educators holding a bachelor's degree granted during the 1952–1955 period is reviewed in this study. Of these health educators, 214, or approximately half, are reported to have secured school positions. The positions are distributed as follows: junior and senior high schools 203, elementary schools seven, colleges and universities three, and schools of nursing one. Only 24, or 6 per cent, of the graduates are reported to have been placed in public health positions. Ninety-nine, or 24 per cent, are shown to have entered military service. Another 10 per cent enrolled for further study in colleges or universities. A small 8 per cent, including a few for

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whom the institutions had incomplete data, are listed as having miscellaneous placement. It is important to note that this analysis of placement is based upon an accounting of about 60 per cent of the total graduates from both single and dual health education major programs in the institutions which provided data in this study.

Salary Range of Health Educators with Bachelor's Degree—Among the health educators with a bachelor's degree, those on a nine or 10 months' salary are in the $2,700–$4,800 bracket. Those on an 11 or 12 months' salary are in the $3,000–$5,100 bracket. A majority of this group are recent graduates with little or no job experience.

Graduate Health Education Majors

Sixteen of the 35 institutions responding to the questionnaire offer programs in health education which lead to a teaching certificate or graduate degrees. Again, some institutions which are known to have graduate health education programs did not submit data for this study. Further, the study does not include students who were primarily enrolled for graduate study in schools of public health.

Enrollment—Six hundred and fifty-one graduate health education majors were enrolled during the 1952–1955 period with an average of more than 200 students each year. The specific enrollments are: 218 (1952–1953), 177 (1953–1954), and 256 (1954–1955). Throughout this three-year period approximately 65 per cent of the health education graduate students are reported as working toward the master's degree, while about 30 per cent are working toward the doctoral degree.

Graduate Scholarships and Fellowships—The institutions report that they awarded scholarships and fellowships in health education as follows: 14 (1952–1953), 20 (1953–1954), and 21 (1954–1955). These awards appear to be somewhat less than the number of scholarships and fellowships that were available. The questionnaire did not reveal information about the scholarship or fellowship stipends. Possibly this should be done in any future studies on graduate health education majors.

Majors Granted Graduate Degrees—A total of 259 graduate health education majors were granted a teacher's certificate (involving study beyond the bachelor's degree) or graduate degree(s) during the three school-year period from 1952 to 1955. As might be expected, approximately 75 per cent of the group received the master's degree, while 15 per cent received a doctoral degree. An average of 86 students per year were awarded some type of certificate or graduate degree involving work beyond the bachelor's degree.

Placement of Graduate Majors—The cooperating institutions submitted placement information for 198 graduate health education majors who were granted a fifth year teaching certificate or a graduate degree during the three school-year period covered by the study. One hundred and fifty-one of this group, or about 76 per cent, secured some type of school position. These positions were distributed as follows: junior and senior high schools 80; colleges and universities 45; elementary schools six; schools of nursing five; school nurse supervisors seven; and health coordinators eight.

Eighteen of the graduates, or approximately 9 per cent, secured public health positions: public health departments eight; voluntary health agencies six; industrial and commercial health education three; and unclassified one. The remainder of the group followed other pursuits: military service 7 per cent, further college or university study 3 per cent, and miscellaneous placement 5 per cent.

Salary Range of Graduate Health

Education Majors—Among the health educators who hold advanced degrees, a majority of those on a nine or 10 months' salary are in the $3,800–$6,000 bracket. Those on an 11 or 12 months' salary are in the $4,100–$6,200 bracket. Some of the health educators in the higher paying positions are mature, experienced persons who completed either their doctoral or master's degree during the period covered by the study.

Summary

These are some of the main points about undergraduate health education programs in American colleges and universities.

¶ According to responses to the questionnaire, about 35 colleges and universities in the United States offer an undergraduate health education major. At least 23 institutions have an active and growing undergraduate health education program. On the other hand, some of the professional health education curricular are still largely paper programs. They report that few, or no, students have been enrolled or graduated during the period covered by this study. Four institutions report an undergraduate dual major in health and physical education, and they also report high enrollments in this type of program.

¶ Among the graduates on whom respondents supplied placement data, it appears that there are positions available for inexperienced health educators with a bachelor's degree. Many of the positions which they hold involve responsibilities in health and physical education at the junior and senior high school levels. However, an impressive number are described as school health education.

¶ Some of the undergraduate majors find employment in public health education positions. In the committee's report for 1947–1952, 22 per cent of the undergraduate majors are reported to have been placed in public health education positions. For the period 1952–1955 the per cent of undergraduate majors going into public health education positions is only six. Possibly this shift reflects a greater availability of community health educators from among the graduates of schools of public health during the latter period.

¶ About 10 per cent of those who receive a bachelor's degree in health education are reported to have enrolled for further college or university study. Very few of these students enroll in schools of public health. Possibly the three-year experience requirement for entrance into the graduate program leading to the master of public health degree and the lack of apprenticeship opportunities in public health are deterrents in this instance.

¶ The majority of graduates from undergraduate health education major programs are holding positions with salary ranges from $2,700 to $4,800 on a nine or ten months' basis and from $3,000 to $5,100 on a yearly basis.

These are some of the salient points concerning graduate health education programs.

¶ Sixteen of the colleges and universities that submitted data on this study offer graduate programs leading to graduate degrees with a major in health education. This number does not include the schools of public health.

¶ Slightly more scholarships and fellowships are available than are awarded in health education. It is noted that some of the scholarships and fellowships are available in both health education and physical education and that all of these would not be awarded to health education majors in any one year.

¶ It appears that the health education majors who receive graduate degrees beyond the bachelor's degree secure employment. A great majority of them (76

per cent) enter school positions, while some (9 per cent) secure public health positions.

¶ The salaries of health educators who hold advanced degrees average between $3,800 and $6,000 on a nine or 10 months' basis, and between $4,100 and $6,200 on a yearly basis.

Questions

This report raises several questions for further study and investigation:

1. To what extent do undergraduate major health education programs adequately prepare students for school health education and public health education positions?

2. Does the undergraduate dual major in physical and health education provide an adequate preparation in both fields?

3. How may more high school youths become better acquainted with health careers opportunities, including health education?

4. What screening processes will help colleges and universities to identify students who will most likely be successful in undergraduate or graduate health education programs and later in the health education field?

5. What relationships and differences exist between the programs for an undergraduate major in health education, a dual major in health and physical education, and a minor in health education. What competencies does each develop? For what types of professional employment does each prepare? What criteria are used in formulating these programs?

6. How can school administrators and school boards be encouraged to include health education specialists on their staffs and to use these specialists to the full advantage of the school program?

7. Does the undergraduate health education major serve as a feeder system to graduate programs in school health education and community health education (schools of public health)? If this is desirable, how may some of the "bottlenecks" be overcome?

8. What preparation is desirable for the college health educator?

9. In the graduate program of health education, what degree of differentiation is made in terms of competencies for: (a) the research worker, (b) the administrator, and (c) the health educator?

10. Are certification standards keeping pace with advances in health education and the whole area of teacher preparation? What criteria are applicable and what changes are desirable?

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Household Survey, Individual Interview, and Clinical Examination to Determine Prevalance of Heart Disease

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This is the fourth of the related papers on "Uses and Limitations of the Household Interview and Clinical Examinations to Determine Prevalence of Heart Disease."

Recent years have witnessed the increasing utilization of interview surveys of well defined population groups to obtain estimates of the prevalence of various diseases or conditions in these groups and to determine if relationships to other characteristics exist. As the title of this session indicates we have a strong interest in methodologic problems which arise whenever survey methods are employed to study chronic diseases. Although we are certain that all of you have at one time or another discussed the advantages and shortcomings of such survey methods, we do not believe that the point has yet been reached where it would be considered unnecessary or inappropriate to report findings bearing on the basic measurement problems inherent in such surveys. As evidence of this kind is accumulated we will be better able to judge how much can reasonably be achieved by these methods, and, where a particular survey method seems appropriate, we will be in a position to institute changes leading to increased accuracy in our results.

What we propose to do here is to describe three estimates of the prevalence of heart disease in the Arsenal Health District of the City of Pittsburgh, each based on a different basic measurement: one calculated from answers to a question included on a general household morbidity survey; a second based on answers to a question in a study oriented solely toward diseases of the heart, involving individual interviews of each sample person; and a third calculated from the results of a physical examination specifically designed to detect each case of clinical heart disease among the sample persons. These estimates differ markedly being, respectively, 2.7 per cent, 10.2 per cent, and 14.6 per cent for the population 15 years of age or older. The magnitude of these differences depends upon many factors which could not reasonably be included in this presentation. We have chosen to attempt to characterize the group of persons for which the three measurements give conflicting classifications and for this purpose will examine a group of 383 persons subjected to measurement by each of the three methods.

Data

As indicated, the data come from a series of studies conducted in the Arsenal Health District of the City of Pittsburgh, an industrial and residential

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area comprising 22 of the 194 census tracts of the city with a population of approximately 82,000. The sample for the household morbidity survey has been described in detail.[1] Basically, it is an equiprobability sample of approximately 3,000 households containing 7,130 persons 15 years of age or older. Interviewing was performed by lay personnel using a five-page questionnaire covering general morbidity, medical care, and related topics, the interview requiring 20–30 minutes of interviewing time. Any responsible adult found at home when the interviewer called was eligible to answer the questions both for himself and all the other household members. A chronic disease check list was employed that included the question "Does any member of this household have heart disease?" In addition, questions were asked concerning 10 symptoms frequently associated with diseases of the heart. The interviewing was completed during June and July of 1952. This study will be referred to as the household survey.

In 1953 one of us (J.T.) undertook an analytic investigation of the relationship between "job problems" and diseases of the heart. This study included an individual interview, again by lay personnel, of a sample of 720 persons selected from the 7,130 persons included in the household survey. The health questions on the questionnaire were directed almost exclusively to direct questions concerning diseases of the cardiovascular-renal system and symptoms related thereto and included the question, "Have you ever had heart trouble?" To provide the necessary numbers of cases of heart disease for Dr. Tauber's analytical study differential sampling rates for various groups were utilized. The 7,130 persons in the household survey were stratified by age, sex, and response to the heart disease questions on the household survey. All the 193 persons for whom a "yes" answer was given to the question, "Does any member of this household have heart disease?", were placed in Group A and included in the individual interview sample. From the remaining persons, those with one or more heart disease symptoms were placed in Group B, and proportionately sampled at a uniform rate within each age-sex category. A total of 328 out of the 563 persons in Group B were included in the individual interview sample. Finally, from the 6,374 persons with neither a positive response to symptoms or heart disease, 200 were chosen, again proportionately within each age-sex category. In making estimates for the entire population we are thus required to weight the responses from the individual interview inversely as the sampling rate in each of the three Groups A, B, and C. Of the total of 721 persons selected for the individual interview, only 517 or 72 per cent were interviewed as indicated in columns (4) and (5) of Table 1. Approximately half of those not interviewed refused to cooperate while the other half had either died, moved from the district, or were otherwise unavailable for an interview. The interviewing was completed during the period October, 1953, to April, 1954. Thus, there was an average lag of approximately 18 months from the time of household interview.

At the completion of the individual interview each sample person was invited to come to the health center for a physical examination. The examination procedure consisted of:

1. A medical history and physical examination with particular attention to the cardiac system together with a 14 x 17 roentgenogram, P-A, and a 12 lead electrocardiogram. Of the 721 persons selected for the sample 383 were examined.

2. Review by one or more members of the group of 11 consultants in cardiology participating in the study of all the recorded findings on each of the 383 persons examined.

3. Reexamination of those persons about whom the findings raised in the mind of the participating cardiologists some question as to

Table 1—Summary of Number of Persons Sampled, Interviewed, and Examined Classified by Response on Household Interview and Ultimate Clinical Diagnosis, Pittsburgh, 1952–1954

Household Interview July, 1952		Heart Study—September, 1953–May, 1954						
			Individual Interview			Physical Examination		
Does Any Member of This Household Have Heart Disease?		No. Sampled	Have You Ever Had Heart Trouble?			Clinical Diagnosis		
Response	No.		Yes	No	Not Interviewed	Heart Disease	No Heart Disease	Not Examined
Group A "yes"	193	193	111			64	18	29
				21		4	11	6
					61			
Subtotal						68	29	35
Group B "no, but have symptoms"	563	328	45			18	19	8
				187		31	108	48
					96			
Subtotal						49	127	56
Group C Neither A nor B	6,374	200	11			3	7	1
				142		10	90	42
					47			
Subtotal						13	97	43
Total	7,130	721	167	350	204	130	253	134
				517			383	

the absence or presence of cardiac disease. A total of 179 persons were scheduled for a second examination. However, 18 refused the invitation so that a total of 161 persons were reexamined by the consulting cardiologists. The 161 persons include 113 finally classified as having heart disease, 45 finally classified as having no heart disease, and three classified as questionable heart disease but ultimately included in the no heart disease category. Repeated electrocardiograms were made on five persons, fluoroscopic examination on 12, and a kymograph on one. Each diagnosis of a cardiac disease was made jointly by a group of at least three of the cardiologists. An additional 17 persons not examined a second time were classified as having heart disease by the cardiologists upon review of the findings of the first examination, yielding a total of 130 persons finally classified as having heart disease and 253 as not having heart disease.

The diagnosis of heart disease was based on the definitions of the New York Heart Association.[2] As an indication of those signs and symptoms which were judged significant in the diagnostic procedure we may record that each person classified as having heart disease exhibited either one or more of the findings in Group I or two or more of the findings in Group II. In summary, the final diagnosis of heart disease in each case depended upon the judgment of the cardiologists. The signs and symptoms in the two groups which follow were important considerations in arriving at a decision but, in each case, all the relevant findings were reviewed and all contributed to the judgment.

GROUP I

a. Definite history of angina pectoris.
b. Diastolic cardiac murmur.
c. Gr. III or IV systolic cardiac murmur.

d. X-ray evidence of generalized cardiac enlargement based on prediction table for average normal transverse diameters of the heart silhouette on the 6 ft. PA teleroentgenogram or x-ray evidence of definite left ventricular enlargement based on the heart silhouette on the 6 ft. PA and/or oblique teleroentgenogram and/or fluoroscopy.

ECG evidence of:

e. Prolonged P-R interval over 0.21 second.

f. Q more than 25 per cent of succeeding R except in AVr and V_1.

g. QRS duration 0.12 second or more.

h. Tall and/or broad R′ with delayed intrinsicoid deflection in V_{1-2}, QRS more than 0.08 second.

j. Broad R or R + R′ without Q in V_{5-6} or with very large QRS V_{1-2}, with or without inverted T.

k. Auricular fibrillation or flutter-fibrillation.

l. Numerous ventricular PB's, occurring in all leads, especially if coupled.

GROUP II

a. History of heart disease, especially of myocardial infarction.

b. Gr. I or II systolic cardiac murmur.

c. Thyroid disease.

d. X-ray evidence of slight left ventricular enlargement.

e. QRS duration of 0.10–0.119 second.

f. R_{V5} or R_{V6} S_{V1} more than 35 mm with delayed intrinsicoid deflection.

g. Paroxysmal tachycardia.

h. Low voltage throughout all leads.

j. Sagging ST, inverted T in L_0 L_0 aV_F V_4, and sagging ST with isoelectric T in aV_L and V_5.

Of the 130 persons classified in the heart disease category, 99 were included in Group I, 30 in Group II, and two could not be included in either Group I or II. Persons who were found to have only one of the findings in Group II were not included in the heart disease group, but were finally classified as having no heart disease. Thus, among the persons in the category of no heart disease were: 24 with systolic heart murmurs alone, 14 with only abnormalities of the electrocardiogram, such as frequent ectopic ventricular and nodal contractions, carotid sinus sensitively, etc.; two with aortic aneurysm only; and 12 with only other changes in the aorta—calcification, tortuosity, dilatation.

Undoubtedly, by this exclusion process we have placed in the category of "no heart disease" a number of persons who could have been placed in a category of questionable heart disease. We must also assume that among those persons classified as having heart disease there are some who would be considered as not having the disease by other clinicians. However, in view of the critical review by the participating cardiologists, we believe that errors in diagnosing clinical heart disease where it does not exist are fewer than the errors of diagnosing no heart disease when, in fact, it does exist.

All the facts relevant to the sampling procedure rates of completion of various phases of the work and ultimate classification by the three methods are summarized in Table 1.

Analysis

Many possible reasons can be advanced for the observed differences in prevalence estimates prepared from the three sources. A partial list would include such possibilities as differences introduced by: (1) nonresponse bias; (2) semantic or communication difficulties: wording of questions used, memory failure, definitions and concepts, etc.; (3) procedure: check lists versus detailed questions versus examination, interviewer ability, auspices, emphasis, different respondents on two occasions; (4) date of onset between measurements; and (5) errors in diagnosis, interviewing, coding, processing, and sampling.

Some evidence concerning the magnitude of the differences and the contribution of certain of these factors can be found in our data. Let us look first at a more detailed breakdown of the differences.

Consider first the 383 cases where we have all three measurements on each individual. Of these 383 cases, 262, or 68.4 per cent, are in agreement on the three measurements. Assuming that these 383 cases are a random sample from their respective strata we would estimate that if each of the three procedures was conducted on all 7,130 persons in the household survey, agreement among the three measurements would occur in approximately 80 per cent of the cases. If we look only at the two interviews, we find agreement between the answers to the two questions employed in all but 62 cases among the 383, i.e., 84 per cent. When this percentage agreement for the two interviews is estimated for all 7,130 persons under the same assumption as utilized above an estimate of 89.8 per cent agreement is obtained. We may obtain a better estimate of this quantity by using the 517 cases (Table 1) where two interviews were made. The corresponding estimate is 91.6 per cent.

Table 2—Estimates of Sensitivity and Specificity of the Household Interview and Individual Interview Heart Disease Classification Based on the 383 Cases with Physical Examination in Table 1

Household Interview Classification	Heart Disease		No Heart Disease		
	No. in Sample	Estimated No. in Stratum	No. in Sample	Estimated No. in Stratum	Total No. in Stratum
Heart disease—Group A	68	135	29	58	193
No heart disease—					
Group B	49	157	127	406	563
				6,027	6,937
Group C	13	753	97	5,621	6,374
Total		1,045		6,085	7,130

Sensitivity 135/1,045 = 12.9%
Specificity 6,027/6,085 = 99.1%

Individual Interview Classification	Heart Disease		No Heart Disease		
	No. in Sample	Estimated No. in Stratum	No. in Sample	Estimated No. in Stratum	Total No. in Stratum
Heart disease—Group A	64	127	18	36	
Group B	18	57	19	61	
Group C	3	173	7	407	
		357		504	861
No heart disease—					
Group A	4	8	11	22	
Group B	31	99	108	346	
Group C	10	581	90	5,213	
		688		5,581	6,269
Total		1,045		6,085	7,130

Sensitivity 357/1,045 = 34.1%
Specificity 5,581/6,085 = 91.7%

The estimate of 80 per cent agreement among the three measurements and approximately 90 per cent agreement among the two interview measurements might be viewed as an encouraging methodologic finding with respect to many possible objectives that can be envisioned for interview surveys in this connection. However, with respect to estimating the prevalence of heart disease in a large population group, the 20 per cent disagreement results in the widely differing estimates which we have noted. What are the characteristics of these persons for which the three measurements give different results? What is the severity and type of heart disease present in those cases responding negatively to the survey question(s), and what causes the positive response to the survey question(s) in those cases found not to have heart disease upon clinical examination? We need information on these and similar questions before we can interpret the estimates prepared from interview survey data.

Sensitivity and Specificity of Household and Individual Interview Question—First, although many factors are confounded in the comparison, let us characterize grossly the difference between the household survey and the individual interview for our 383 cases. Of the 97 cases classed as heart disease by the household interview, 68 (70 per cent) were found to have heart disease by the cardiologists (Table 2). In Group B, 49 cases of heart disease were diagnosed among the 176 persons examined (28 per cent). Finally, in Group C, which reported neither heart disease nor symptoms, 13 cases were diagnosed in the 110 examinations (12 per cent). Translating these figures into sensitivity and specificity of the household interview we find the sensitivity to be 135/1,045, or 12.9 per cent, and the specificity 6,027/6,085, or 99.1 per cent. Putting this another way, of 6,937 persons classed as not having heart disease by the household interview, we estimate that 910 or, 13.1 per

Table 3—Heart Disease Status of 375 Cases as Determined by Three Procedures Classified by Informant or Not Informant for the Household Interview

		Persons Answering for Themselves on Household Interview			Persons for Whom Answers Were Given by Others on Household Interview			Total
		Physician Diagnosed			Physician Diagnosed			
Household Interview Response	Individual Interview Response	Heart Disease	No Heart Disease	Total	Heart Disease	No Heart Disease	Total	
Yes—Group A	Yes	40	6	46	24	12	36	
	No	0	1	1	4	5	9	
		40	7	47	28	17	45	92
No—Group B	Yes	8	10	18	9	7	16	
	No	16	72	88	15	36	51	
		24	82	106	24	43	67	173
No—Group C	Yes	1	1	2	2	6	8	
	No	4	34	38	6	56	62	
		5	35	40	8	62	70	110

Table 4—Heart Disease Status of 375 Cases as Determined by Two Procedures Classified by Informant or Not Informant for the Household Interview *

Individual Interview Response	Informant			Not an Informant		
	Physician's Diagnosis			Physician's Diagnosis		
	Heart Disease	No Heart Disease	Total	Heart Disease	No Heart Disease	Total
Yes	49	17	66	35	25	60
No	20	107	127	25	97	122
Total	69	124	193	60	122	182

* Summarized from Table 3.

cent, are falsely classified; while of the 193 classed as heart disease cases, 58 (30.1 per cent) are found not to have heart disease by the physician.

The corresponding figures for the individual interview are: sensitivity 34.1 per cent, specificity 91.7 per cent. (Of 6,269 persons classed as not having heart disease by the individual interview 688 or 11.0 per cent are estimated to have heart disease, and of the 861 persons reported positive on the individual interview, 504, or 58.7 per cent, are free of heart disease.)

The net result of these gross differences in the two survey procedures is that the rate of prevalence estimated from the individual interview is roughly three times the rate obtained from the household interview. Further, neither method provides an adequate classification of individuals when compared with the physician's diagnosis.

Characteristics of the "False-Positives and False-Negatives" —The characteristics of the persons who are "false-negatives" and "false-positives" may shed some light on the reasons for the differences noted. Among our 383 cases 41 were reported as not having heart disease by both the household and the individual interview yet were diagnosed as cases of heart disease by the cardiologists. What are the characteristics of this group? First, in general they are an elderly group having an average age of 59 years. Only five of the cases were under 45 years of age. Thirty-eight of them have been medically attended in the sense that they have seen their family doctor during the last two years. Thirty of them were reported on interview to have either high blood pressure or hardening of the arteries and all but one reported symptoms frequently associated with diseases of the heart. The substance of these findings is that in every case except one the individuals were aware that their cardiovascular system was causing them difficulty, and almost all have seen a doctor about their condition. The single exception was a 58-year-old female who reported no cardiovascular conditions and nothing in the way of symptoms referrable to the heart, but was diagnosed as having hypertensive heart disease, therapeutic class C.[2] As might be expected the bulk of the diagnosed heart disease for this group of 41 persons is of a mild severity as judged from the therapeutic classification of the cases (Table 4).

In summary, the two interview questions failed in middle aged and older persons to classify as "positive" 41 cases of mild heart disease which had produced symptoms referrable to the cardiovascular system which was recognized as such by 40 of the 41 cases.

Looking next at the 55 cases for

which one or both of the interview questions resulted in a "positive" classification of the individual, but for which the cardiologists failed to diagnose heart disease we find a somewhat different picture. After removing five cases involving interview and coding errors, the remaining 50 cases have an average age of 39 years—20 years younger than the previous group considered. Twenty-two of the cases are less than 35 years of age. The subgroup of 28 persons over 35 years of age, as may be expected, appears in many respects similar to the 41 cases considered earlier. All 28 have been under a doctor's care for their condition and in most cases indicate that they have either taken medication for their heart or otherwise been informed by their physician that they have "heart trouble." Twenty-two of the 28 cases had findings on examination related to heart disease: eight cases of innocent murmur, five cases of hypertension, and nine cases of other related conditions (potential heart disease, arteriosclerosis of the aorta, etc.). The 22 cases less than 35 years of age, however, appear to be markedly different. Twelve of the cases reported that they had been victims of rheumatic fever earlier in life and the others reported either that a doctor had told them that they had a murmur or diagnosed what they describe as a "heart condition." (One case of epilepsy was called heart disease by the mother of the afflicted girl.) The cardiologists found innocent murmurs in six of the 22 cases in which no evidence of heart disease was discovered.

To summarize, the "false-positive" reports appear to be cases which have been told by a doctor that something is or was at some period of their life wrong with their heart. The group contains a large proportion of young people who have had rheumatic fever and who have apparently recovered from the the disease to the extent that no heart pathology is now demonstrable.

It would thus appear that the questions concerning heart disease utilized in these interview studies have difficulty in properly classifying the heart disease status of middle aged and older persons, resulting in a net underestimate of the proportion of these persons with clinically demonstrable heart disease. These questions, at the same time, tend to elicit positive responses for younger persons who have had rheumatic fever and recovered with no residual heart involvement, or who have been told that they have a heart murmur which cardiologists classify as "innocent"; these positive responses result in an overestimate of clinical heart disease in this group. The magnitude of these effects is sizable, but precise estimates cannot be obtained from this study.

Influence of Respondent and Wording of the Questions—You will recall that the two interview surveys differed in that a single informant gave information about himself and all the other members of his household during the household survey by answering the question "Does any member of this household have heart disease?"; while in the individual interview survey each person answered the question, "Have you ever had heart trouble?", for himself only. Some evidence relating to the effect of choice of respondent and wording of the question can therefore be obtained from our data. The pertinent data are summarized in Table 3 for the 383 cases, less eight involving interview or coding errors or onset of symptoms in the interim between surveys.

From Table 3 it is clear that the clinical diagnosis is in closer agreement with the answer given during the household interview in the group which answered the question for themselves than in the group for which the answer was furnished by some other person in the household. The proportion of yes answers (Group A) to the household interview question subsequently diag-

nosed as heart disease by the physicians is 85 per cent for household informants and only 60 per cent for noninformants. In the group reporting symptoms (Group B) 22 per cent of the informants who answered the household question negatively were found to have heart disease upon examination as contrasted with 36 per cent in the noninformant group. In Group C the informants and noninformants are falsely classified as negative in about the same proportion, 12 per cent and 11 per cent, respectively. These findings would seem to indicate that a person responding for himself would be preferred over a household informant if cost was no consideration. However, the comparisons above do not consider the many other factors that differentiate the informant group from the noninformant. We know that informants, in general, have more illness than noninformants, and conceivably they could be an easier group to classify correctly with the question employed. We should note, moreover, that even among the 40 informants answering the household interview question negatively, five persons, or 12 per cent, were found to have heart disease by the cardiologist. This is evidence that if our objective is to estimate the prevalence of heart diseases in a population group we will not solve our problem by requiring that our interviewers question persons concerning only their own condition.

If the responses to the individual interview question are examined for agreement with the physician's diagnosis, there is additional evidence that the other factors that differentiate the informant from the noninformant group do affect comparisons of these groups, as suggested earlier. The question employed has changed but now each person answers only for himself. Ignoring the differential sampling rates and classifying the raw numbers we obtain the figures in Table 4 for the informant and noninformant group. Any measure of association used would certainly show a higher degree of association between the two classifications for the informant group than for the noninformants, indicating that other factors such as sex, age, type of disease, etc., play a role in any informant versus noninformant comparisons in a household survey.

The influence of the change in wording of the question concerning heart disease between the two surveys is also apparent. In the informant group 20 persons responded yes to "Have you ever had heart trouble?" after answering no to "Do you have heart disease?" From reading the interviews it appears that most of these shifts in answers can be attributed either to the change in tense or the change from the more specific and frightening word "disease" to the looser term "trouble." Again, it should be known that among the 100 negative responses in Group C to this less specific question, "Have you ever had heart trouble?", the cardiologists diagnosed 10 cases of diseases of the heart. When it is remembered that over 80 per cent of the entire population group being considered here is estimated to be included in the class to which this 10 per cent prevalence rate applies, the implications of this finding with respect to the difficulty of identifying cases of heart disease by interviewing should be clear.

Discussion

There are many reasons for desiring estimates of the prevalence of various chronic disease conditions in a population group. For some objectives it may be sufficient to have a count of the number of persons who have been informed by their physicians that they have acquired a particular disease; in other cases it may suffice to count those persons who have taken particular actions

with respect to symptoms that have developed, such as taking medication or undergoing other forms of therapy. However, if the objective of an investigation is to estimate the number of clinically diagnosable cases of a particular disease in a community, such as heart disease, the evidence from our Pittsburgh studies is that a survey by lay interviewers is not a satisfactory method. In making this judgment the limitations in the Pittsburgh data are recognized.

If our interest centers on estimating the prevalence or incidence of cases of clinical diseases of the heart in a population group, or in relating these conditions to other characteristics of the persons in the group, there seems to be no possibility of eliminating from such studies the physical examination by qualified physicians. If this be granted, we should turn our attention to methods of investigation which would utilize the physician's services most efficiently and economically. For estimates of prevalence or incidence this efficient utilization concept suggests that the well known multiphase sampling schemes which have proved remarkably efficient in other areas be investigated in this field. The evidence in this study would indicate that the interview, with modifications, could be developed to give the cheap measurement to be used for stratification or in estimation. Theoretic problems remain unsolved for the application of multiphasic schemes to investigations undertaken principally to study relations, as is the case with epidemiologic investigation; but solutions will be found if and when such designs are demanded.

Summary

1. The prevalence of diseases of the heart in an adult population has been estimated, based on three different basic measurements giving markedly different results.

2. The sensitivity of neither of the two interview procedures described is adequate for estimating the prevalence of clinical heart disease in a general population.

3. The cases of heart disease not elicited by the interview methods employed are mild cases occurring generally among middle aged or older persons which have, however, produced symptoms referable to the cardiovascular system.

4. The cases described as heart disease at interview which were not diagnosed as heart disease in the clinic have an average age 20 years younger than those cases of heart disease overlooked at interview and include a high proportion of young persons with a history of rheumatic fever or "heart murmur."

5. There is evidence in the data presented of variation in the survey results attributable to informant choice and to tense and wording changes in the questions used on different occasions.

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Journals Wanted

The Association has received several requests for the October, 1955, March and May, 1957, Journals from persons who bind the magazines. These persons and the Association would be grateful if members having no use for these particular issues would make them available to others. Such generosity will be much appreciated. The magazines should be sent to the Association office at 1790 Broadway.

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Influenza 1957

"Many important events were attributed to the influence of the stars: storms, earthquakes, famines and epidemics. If Florence was in the grip of an epidemic of colds, coughs and fever, astrologers were consulted, and they declared it was caused by the influence of an unusual conjunction of planets. This sickness, which kept recurring from time to time in hard winters, came gradually to be known as influenza." *

The world first learned of an outbreak of influenza in the British colony of Hong Kong in mid-April, 1957. In the intervening months millions of cases of a relatively mild disease, now called Asiatic influenza, have occurred over a wide area of the Far East as well as in other parts of the world. The disease was reported from Singapore and the Malayan Federation early in May and as the months progressed Japan, Indonesia, Taiwan, the Philippines, Borneo, and Indochina were involved. By June the disease had appeared in India and Pakistan. An epidemic has been reported from Chile, and outbreaks have also occurred among passengers and crews of ships calling at affected places. Such ships have arrived at ports in the Netherlands and Great Britain, in Australia, and on the East and West Coasts of the United States. The first cases in this country occurred early in June among the crews of ships berthed at Newport, R. I. Just how the virus was introduced to this population could not be ascertained. Subsequently, cases have appeared in California, Ohio, Kentucky, and Utah, among others. Thanks to the U. S. Army medical teams working in the Far East the cause of these epidemic outbreaks has been established as a new strain of A-prime virus antigenically different from strains previously recognized.

The U. S. Public Health Service has been alert to the threat of an epidemic in the fall or winter of 1957. A series of conferences has been held by the Surgeon General to make known the facts about the disease and to explore means for minimizing the impact of an epidemic. The virus appears to be widely seeded in the United States and probably throughout North America. The infection appeared among young adults at a conference in Iowa and among the boys attending the Scout Jamboree at Valley Forge in Pennsylvania. So far, cases among persons exposed to members of these groups have been few and sporadic. Whether other cases will occur during subsequent months remains to be seen. In the meantime it is imperative that public health workers remain alert to the situation and make plans to deal with a possible influenza epidemic this winter.

* Ginevra Nicolini di Camugliano. The Chronicles of a Florentine Family 1200–1470.

Influenza has a long history, but no one can discern with certainty the earliest recorded epidemics. According to August Hirsch the first outbreak which might reasonably be considered as influenza occurred in 1173 when a "certain evil and unheard-of cough" affected Italy, Germany, and England. Very probably there were earlier epidemics that could have been the same disease, but owing to a paucity of information judgment must be reserved. There were many recorded epidemics in subsequent centuries. The pandemic of 1782, which affected the world from China to Europe, also touched America, but the disease had already appeared in the colonies in 1758. The history of influenza in the 19th and 20th centuries is highlighted by the pandemics of 1889–1893 and 1918–1919. One has to go a long way back into the past before encountering world-wide epidemics of such an unusually high mortality as characterized these two. Indeed, the pandemic of 1918–1919 has been described as one of the great human catastrophes.

The current outbreak so far has been mild. The attack rate has ranged between 10 per cent and 20 per cent of the affected population, although some areas such as Manila suffered more severely. Clinically, Asiatic influenza is characterized by sore throat, fever around 102°, which may rise higher to 104°, generalized headache, aches in the chest and back among adults and adolescents, and a dry cough. Vomiting has not been marked; tonsillar enlargement may occur. Recovery is usual in four to five days, although a few patients may have a short recurrence of fever a few days later. To date there is no indication that infants or pregnant women are particularly vulnerable. While the incidence of influenza has been very high, the number of deaths attributable to it have been exceedingly small. Almost all the mortality has been borne by the older age groups, a feature which has been characteristic of influenza epidemics during the post-1918 period. Of course, there may be a change in the virulence of the pathogen or the case fatality and other organisms may complicate the picture.

Although our knowledge of the attributes of the influenza virus has increased greatly over the past two decades, a number of major puzzles in the epidemiology of the disease still remain to be solved. This is not surprising. Influenza virus A was first identified in 1933; the recovery of influenza virus B occurred in 1940; and virus C was found not quite a decade ago. The network of reference laboratories organized by the World Health Organization has now been in existence for some ten years, and is still far from complete in all parts of the world. Actually, the first serious laboratory attempt to study influenza epidemics on a global scale was not made until 1949. During this time viruses recovered from many outbreaks have been studied, yet there are many gaps in our knowledge of the relationship between the virus and its host. The full story of how influenza virus spreads is still unknown; we are comparatively ignorant of the situation which obtains between epidemics; nor is there any completely acceptable explanation of the origin of variant influenza viruses. Burnet and Clark in 1942 suggested that the 1889–1893 pandemic originated from a "virus reservoir" established in central Asia after the Russian epidemics of 1886–1887. In this connection it is worth noting that the 1957 Asiatic influenza virus first appeared in a refugee camp in Hong Kong and may have been carried from the interior of China. Yet the relatively few studies of influenza between epidemics, most notably those of Hoyle and Fairbrother (1947), of Stuart-Harris, et al., (1954), and of Meenan, Clarke, and Byrue (1957) indicate that there is no solid evidence for the view that an influenza virus reservoir in a fixed location is ever established. Instead, the origin of an epidemic seems to depend on the appearance of a new strain of virus, arising either locally or intro-

duced from without, and with sufficient capacity to spread. But how does such a new virus arise? Despite some interesting clues and theories, there is still no generally accepted answer to the question. Few will doubt that more knowledge is also needed of the various virus infections of the respiratory tract, and that such knowledge will have an important bearing on the influenza problem.

Meanwhile what can we do with our present knowledge and facilities? We have never had an opportunity to meet the threat of an influenza epidemic with a specific defense. Now, thanks to the knowledge and technics developed over the past few decades, there is good promise that a vaccine made from the Asian strain will afford a useful degree of immunity. The time elapsed since the virus was isolated has been too short to provide more than limited evidence that it can produce in vaccinated subjects a practicable degree of immunity. Though it is regrettable that no extensive field test of the vaccine is available, it is imperative that such an effort be made even if only on a reduced scale.

It is hoped that the vaccine will prove adequate to prevent an attack of the disease and that this strain will immunize as well as other influenza strains. Based on this hope, and recognizing that it is the only weapon we have, the Public Health Service and the Armed Forces have stimulated the manufacture of a vaccine produced by embryonated egg culture. The first lots are expected from six firms by mid-September. It is hoped that a single dose of the vaccine will be effective. A voluntary campaign of vaccination will be undertaken as soon as it is clear when supplies of the vaccine will be available for civilian use. The cooperation of the medical profession is assured and help has been promised from a score of voluntary agencies which will supplement what health departments can do.

Although the Public Health Service does not expect to establish priorities at the national level, it will undoubtedly be desirable to do so on state and local levels, and to select certain population groups for the first use, as for example, physicians, nurses, hospital staffs, health department personnel, and essential persons in the transportation, communications, and utility industries. Allocation of vaccine and supervision of its distribution must be seriously considered if misuse is to be avoided.

In addition to the steps mentioned above, President Eisenhower has asked for a $500,000 special appropriation from Congress (raised by Congress to $800,000), as well as for authority to transfer about $2,000,000 of public health funds for use in the event of a widespread outbreak. Specifically, the additional $800,000 would be used to develop diagnostic sera to detect the disease, prepare educational material to encourage the use of the vaccine, and to make 10 specialists in epidemic control available for work with state authorities.

Meanwhile, state and local authorities will have to consider such problems as how to care for the sick, the use of public health laboratories for recognition of the virus, the availability of adequate supplies of antibiotics, and the like. It is likely that for uncomplicated cases home care is more beneficial than care in a hospital. Furthermore, once the cause of the outbreak is established, there would seem to be but small need for laboratory diagnosis of the virus, otherwise public health laboratories may be swamped.

In any event, the situation presents a great challenge to the public health profession. For the first time in history we are in the fortunate and unique position of being ahead of an impending epidemic of influenza. The cause is known and a specific defense against it is available. The problem before us now is one of planning and execution, the fundamental functions of public health practice. No

doubt, planning for an epidemic is an awesome task. The moment of impact and its force cannot be foreseen. Nevertheless, modern industrialized communities, such as the United States, have great potentialities for meeting such emergencies, but their proper use demands a high degree of preparedness. At heart the problem is logistical: how to get the right services and the right victims together in the right place at the right time. The need for such planning cannot be doubted. What is needed is leadership, vision, and imagination. It is up to public health workers, particularly those in positions of responsibility on national, state, and local levels, to provide these qualities in leading American communities to plan for a possible influenza emergency in 1957.

Rockefeller Foundation Support for APHA Expansion of Activities

✞ Nine months have elapsed since an editorial in the January issue informed its readers of the Task Force report and the recommendations for action that would enable the Association to enhance its leadership and greatly develop its functions in meeting the newer public health challenges. The heart of the matter is the service the Association can render to the public health profession and the public, both individually and in groups. Since then a number of significant steps have been taken which will make it possible organizationally to move toward the objectives envisaged by the Task Force.

From the outset, however, there was a clear recognition that it would be necessary to secure funds sufficient to underwrite many of the additional costs that would arise. It was recognized that funds would have to be sought from the Association membership and from such outside sources as foundations, corporations and individuals. For this reason, the recent announcement by the Executive Board of a grant from the Rockefeller Foundation to the Association is exceedingly gratifying and at the same time a challenge. That the Foundation saw fit to make the grant is ample testimony to the vital significance of the Task Force recommendations. The grant provides up to $150,000 toward the development of an expanded program of services to professional workers in public health, and is available during the three-year period beginning July 1, 1957.

There must be full awareness, however, that the Rockefeller Foundation grant represents only a part of the sum required for the expanded program outlined by the Task Force and approved in principle by the Governing Council. The purpose of this grant is to enable the Association to get the program off the ground. These funds will be used as far as possible to deal with the most urgent of the new problems that confront public health workers today. At the same time this development presents a challenge to the Association and its membership. How far are we prepared to go, as individuals and as a professional group, to see that the total plan outlined by the Task Force is put into action? The President, Dr. John W. Knutson, has written to the Fellows inviting voluntary contributions, as well as offers of help in soliciting funds. The July Newsletter of the Association invited contributions from all members, even if no more were given than one dollar. As Dr. Knutson has indicated, the number of contributors will be the best argument of all with which to approach substantial donors. The issue is clear. Do we support the Association and its plans for the future? If we do, this is the time for action.

Books and Reports

All reviews are prepared on invitation. Unsolicited reviews cannot be accepted.

The Fight for Fluoridation—By Donald R. McNeil. New York: Oxford University Press (114 Fifth Avenue), 1957. 236 pp. Price, $5.00.

This book dealing with the difficulties currently encountered in the promotion of water fluoridation was written by a lay person, in language readily understood by all. It provides in great detail the unusual reversal in medical science where the search for the cause of one defect (mottled enamel) has led to the use of this causative agent for the prevention of another disease (dental caries). The author had the benefit of working with the voluminous historical file on fluoridation at the State Historical Museum of Wisconsin. In addition, through correspondence and personal visits to many who have participated in the investigations dealing with mottled enamel, the caries fluorine hypothesis and the current studies on fluoride supplements to water supplies, he was able to marshal the facts and present them in an orderly fashion. He devotes a considerable amount of space to the history of water fluoridation in Wisconsin where all of the moves and countermoves on this question were brought into play.

The book should prove to be of great help to the local citizen concerned with fluoridation for his community, and to anyone engaged in a community health education program to promote water fluoridation. It does not have any ready answers on how to overcome the opposition, but it does point up some of the weaknesses in the manner in which the proponents have presented their case and the strength of the emotional appeals made by the opposition. The author has documented his statements in great detail in a separate section on Notes to the Text which makes this book an excellent reference work.

DAVID B. AST

Principles for Healthful Rural Housing—By the Committee on the Hygiene of Housing, American Public Health Association. New York: APHA (1790 Broadway), 1957. 29 pp. Price, $1.00.

These recommendations for attainable health standards in rural housing apply to all districts outside the jurisdiction of city building codes and housing ordinances. Drawn up by a subcommittee of the APHA's well known Committee on the Hygiene of Housing, these principles fall into four major areas: (1) protection against contagion, (2) protection against accidents, (3) promotion of bodily efficiency and comfort, and (4) promotion of emotional well-being. Decisive and clear cut, they serve to indicate that rural housing can no longer be regarded as the cheap side of the housing market—not if standards are maintained. This booklet should be on the desk of every builder and contractor working in rural areas.

RUPERT B. VANCE

How to Drive—Washington, D. C.: American Automobile Association (1712 G St., N.W.), 1957. 122 pp. Price, $1.00.

The American Automobile Association points out through this booklet aimed for the great mass of motorists that driving an automobile is one of the essentials of daily life for 75 million Americans and that each year two million more persons are licensed to drive. The goal is through proper education of all drivers to make the operation of a

passenger car safe, comfortable, and convenient. The high school driver education classes have contributed to this end. To date, however, no one has devised a means of reaching the great mass of motorists beyond school age nor those who are now learning to drive through hit and miss methods.

This is an effort to exploit a forthright appeal to driver self-improvement. It is a new device and the book is excellent for the purpose. The text is well prepared, easily readable, and illustrated in a splendid manner through cartoons. Health agencies which are interested in the prevention of automobile accidents cannot do better than to promote the wide reading of this brochure.

REGINALD M. ATWATER

Guide to Medical Writing. A Manual for Physicians, Dentists, Nurses, Pharmacists—By Henry A. Davidson. New York: Ronald Press (15 E. 26th St.), 1957. 338 pp. Price, $5.00.

As its subtitle suggests, this how-to-do-it is addressed to the practitioners of the several disciplines named who may be without writing experience but who are prompted to spread their ideas on the printed page. The first question to be answered, then, is this—will the book be of value also to the, shall we say, more sophisticated worker in the public health area of the same sciences whose education or experience presumably may have been broader than that of the more narrowly trained practitioner? The answer is a measured and firm, yes.

The manual is written by a man who has suffered and labored long at both ends of the writing process. He is a contributor of scientific articles, an author of several books, and an editor of a state medical journal. His guide is not a style book, of which there are plenty. It is neither a completely documented desk aid, nor an art-of-writing manual, of which there are also enough of both. Instead it is an eminently readable, and at the same time practical, discussion of many aspects of the difficult art of putting ideas in the clearest and fewest words.

"Guide to Medical Writing" deals primarily with the preparation of medical papers—the illustrations are taken from this field—but the principles it enunciates are applicable to the kind of treatises that are more the concern of public health people. The projective reader will have little trouble in applying them. It should be added that the book enters several related fields. For instance, it gives briefer attention to preparing abstracts and book reviews. It talks about writing books.

To balance the manual's strength with its lacks one may conclude, in fairness, that the book cannot meet all the needs that the vocal—or otherwise communicating—member of a health agency staff may expect to encounter. But it is a book that can be added with profit to the library of any agency whose staff members have such need—and what agency is not so staffed?

RAYMOND S. PATTERSON

Dictionary of Anthropology—By Charles Winick. New York: Philosophical Library (15 East 40th St.), 1956. VII plus 579 pp. Price, $10.00.

As the social sciences become of more immediate concern to health workers, it becomes necessary for the latter to have an understanding of the technical terminology employed by the sociologist, the anthropologist, or the social psychologist. For this purpose reference books, particularly dictionaries, can be very useful. This book includes approximately 10,000 terms from cultural anthropology, physical anthropology, archeology, and linguistics. While it is impossible to check all entries in reviewing a work of this type, those that have

been checked were found to be correct. This dictionary will no doubt be found a useful addition to the reference shelf.

GEORGE ROSEN

Services for Children with Vision and Eye Problems. A Guide for Public Health Personnel. Committee on Child Health, APHA. New York: American Public Health Association (1790 Broadway), 1956. 112 pp. Price, $1.50.

This joint publication of the National Society for the Prevention of Blindness and the Committee on Child Health of the American Public Health Association is an excellent guide for school as well as public health personnel who are concerned with helping children to attain maximum health status.

Though specifically directed toward solving problems of eye health, the Guide embodies throughout the broad concepts of sound public health philosophy and practice. The material is presented in nontechnical language and definitively outlined by sections, thereby offering a highly useful source of information for those with or without medical background who wish to contribute to better community services for children with vision and eye problems.

More emphasis might well have been given to some of the very important concepts described implicating both school health and school instructional programing for children with vision problems. For example, the authors point to continuing reading difficulties as a reason for referral of the pupil for a complete eye examination—not for vision screening. The great advantages to the child of the integrated Braille class in a regular day school as compared with separate classes or separate schools for the blind also are described, but this very valuable information is merely "mentioned in passing" and might easily be overlooked by the reader who is not already aware of the confused thinking so common in these areas.

The factual material and suggested practices, policies, and procedures set forth in this publication will be of very real value to those who are concerned with initiating, revising, operating, or administering school or community programs which have as their goal the maximum development and use of the vision potentialities of each child.

ALAN FOORD

A Long Way Forward, A Biography of a Congresswoman: Frances P. Bolton—By David Loth. New York: Longmans, Green (55 Fifth Ave.), 1957. 302 pp. Price, $5.00.

A very long way indeed from the rather typical Cleveland society girl of the early 1900's to Frances Payne Bolton, since 1940 the effective, devoted, and experienced Republican congresswoman from Ohio. Mr. Loth is a sympathetic interpreter of this metamorphosis, and whether he intended it or not, he brings an inspiring vision of woman's place in our government's deliberations, her difficulties, her tremendous responsibilities, and her rewards. This biography refutes effectively the criticism one still hears that women have not lived up to the privileges of the ballot. Mrs. Bolton has. Her story should go far toward encouraging our finest young women to enter politics and prepare themselves for government service.

Many readers will be amazed at the breadth and variety of Mrs. Bolton's interests, ranging from public communications to parapsychology, but certainly the most striking accomplishment is the place she has won for herself as an influential member of the Foreign Affairs Committee. There will be an envious few who will say that with private means to study, travel, and employ extra office help any one could be equally effective politically—actually, how many

of our hundreds of wealthy women are? Money can never take the place of a keen, sympathic, and dedicated mind seeking the truth about men and nations. Nurses, especially, will be forever grateful that Mrs. Bolton's first contact with human suffering and the problems of the underprivileged came to her in the tenements of Cleveland with a visiting nurse as guide. She has been concerned with our professional development ever since and the history of nursing education and recruitment since 1918, as this book so clearly shows, is studded with the luster of her name.

DOROTHY DEMING

Advances in Virus Research—By Kenneth M. Smith and Max A. Lauffer (Vol. IV). New York: Academic Press (111 Fifth Ave.), 1957. 340 pp. Price, $8.00.

The contents of this volume reflect the current extensive effort in the study of basic virus-cell relationships. The following monographs are carefully edited and written and provided with glossaries of the more specialized recent terminology.

"Factors in Virus Evolution" by Andrewes is a reflective essay attempting to analyze logical systems for virus development and show their dependence upon transmission pathways. Dealing with considerable speculative material in a discontinuous fashion it is the least satisfying section.

"Bacteriophages as Genetic and Biochemical Systems" by Hershey is a comprehensive, stimulating, and authoritarian discussion of current phage investigation. Although not easy reading, the sections on phage genetics and lysogeny as colored by Hershey's critical comments are particularly valuable. This material is well supplemented by the next section by Tolmach, "Attachment and Penetration of Cells by Viruses," which is a detailed review of recent work on the nature of virus-cell union and its requirements.

The monograph by Isaacs, "Particle Counts and Infectivity Titrations for Animal Viruses," finds use as a complete reference source for a scattered set of publications. It deals with methods, ratios of viable to total particle counts, and contains a table of particle counts/I. D. 50 per cent for 14 agents.

The next three sections by the Rothamstead group ("Anatomy of Tobacco Mosaic Virus" by Pirie, "Effects of Non-Ionizing Radiations on Viruses" by Kleczkowski, and "The Effects of Changing Temperature on Plant Virus Diseases" by Kassanis) summarize new thinking and developments in plant viruses which are often missed by many virologists. They are better written than the last plant virus monograph by Yarwood, "Mechanical Transmission of Plant Viruses," which is rather uninspired, although this is not an easy subject matter to enliven.

As a concluding monograph Jensen has a fine discussion of influenza virus lability ("Nature of Serological Relationships Among Influenza Viruses"). This authority reviews strain serology, antigenic variation, and their patterns.

This volume will be most useful to the serious informed virologist who will find it timely and stimulating. It is not recommended as a general or introductory description of current research.

JOEL WARREN

Ageing in Industry. An Inquiry Based on Figures Derived from Census Report into the Problem of Ageing Under the Conditions of Modern Industry—By F. Le Gros Clark and Agnes C. Dunne, New York: Philosophical Library (15 E. 40th St.), 1956. 148 pp. Price, $7.50.

The ageing of the population in the industrial countries of the West has turned the attention of many people (health workers, statisticians, demogra-

phers, social workers, and physicians) to various aspects of this phenomenon and its possible or actual consequences. Clark and Dunne have endeavored to determine how many British workers are able to continue in their occupations beyond their mid-sixties. For the most part this study consists of a detailed survey of 32 selected occupations that fulfill certain criteria and is based on the tables of age and occupation published in the census reports for 1921, 1931, and 1951. The study was limited to male workers. By means of the method of "moving cohorts" the authors attempted to follow a category of workers through the three census periods. As a consequence they believe they can show how many workers remain in the same occupation and how many have left the given occupation because of transfer to another occupation, overseas migration, retirement, and death. Based on these data, survival rates are presented for given occupations. Not unexpectedly the fewest survivors are found among coal miners, while more watchmakers, workers in precious metals, and makers of musical instruments continued at work through their late sixties than any other workers.

While the statistical data are not completely comparable in certain respects and incomplete in others, the study concludes with an estimate of the numbers of workers for whom alternative or modified jobs will probably have to be provided if they are to remain gainfully employed beyond their mid-sixties. This is based on the assumption that high employment will persist, that there will be continuing high demand for labor, and that employers will exhibit an increasing appreciation of the abilities of older people.

Whatever the defects present in this study there is no doubt that it is stimulating and provides a basis for further inquiries into the employability of older men. For example, there seems to be a clear indication that the capacity of men to remain at their jobs beyond their mid-sixties in Britain varies from occupation to occupation, depending to a large extent on the nature of the job itself. Consequently, for men who have to leave their occupations, alternative employment appears to be the most suitable method of prolonging their working lives. Studies along this line are definitely needed. Furthermore, it would be of considerable interest to see how American conditions and findings compare with the British data.

GEORGE ROSEN

Dictionary of Microbiology — By Morris B. Jacobs; Maurice J. Gerstein; and William G. Welter. Princeton, N. J.: Van Nostrand (120 Alexander St.), 1957. 276 pp. Price, $6.75.

These authors who, either alone or in cooperation with others, have written many books and scientific papers in the field of microbiology, have pooled their scientific knowledge to publish this dictionary of microbiology terms. In approximately 300 pages they define about 5,000 terms used by the various specialties in the field of microbiology.

In a work of this size the authors do not claim to cover the entire range of microbiology, but in checking for the presence or absence of various terms, both usual and unusual, it was surprising to find how extensively the field is covered. In the field of parasitology many of the rarer blood and tissue parasites are included, but some of the common intestinal parasites are missing. In bacteriology and mycology some discrepancies were noted in accepted nomenclature.

If used in conjunction with a standard medical dictionary, this book will give some terms not found in the much larger medical dictionary and some of the definitions will be more complete,

particularly those pertaining to the bacteriologic species or culture media.

This book should be useful for students or medical secretaries to obtain a quick definition of words encountered in their reading where complete data are not needed. Likewise, specialists in one field of microbiology might find it useful in defining words they encounter in related fields. RAYMOND E. LEACH

Psychiatric Education and Progess —By John C. Whitehorn. Springfield, Ill.: Thomas, 1957. 45 pages. Price, $1.75.

The Salmon Lectures of the New York Academy of Medicine have offered to many wise men the opportunity to share their wisdom with others; Dr. Whitehorn has grasped this opportunity to encourage his colleagues to look carefully at their premises and to see whether their best performances are in accord with the theoretic system they attest, whatever that system might be. He suggests that in the best performances there will be found an "unexpressed supplement" not indicated in the theory or even contradicting it. The example used is the contrast between the attestation of complete belief in psychological determinism while recognizing at the same time that the human being does have power of decision and that "spontaneous" actions do occur. It is pointed out that the psychiatrist alienates himself from his medical and nonmedical colleagues in scholarship and in society when he insists on a theory so out of tune with the ordinary ways of man.

It is suggested that such slavish devotion to theoretic concept represents a refuge from any uncertainty about the reasonableness of the universe, a flight from the reality of the world as it is (recognition of which is likely to lead to good performance with patients because of the "unexpressed supplement") to a world as it should be, a theoretic world, hardly needing support any longer from the real world of practical things and practical men. Dr. Whitehorn remarks that postgraduate students are frequently able, because they have not yet learned the habits of thinking that allow evasion of the inherent contradictions in theory, to point out the discrepancies. This they can do, however, only if the residency is designed as an educational experience and not as an opportunity in which the student becomes a disciple.

This leads to the first statement of the lectures, and perhaps the most important, namely, that the specialty of psychiatry carries a double responsibility. The first responsibility, one that Dr. Whitehorn feels has been carried out with increasing efficiency in recent decades, is that of continuously increasing the standards of skill with which the specialist does his job. The second, about which less satisfaction is expressed, is that the specialty is a "division of scholarly and investigative labor." In this aspect particularly doctrinaire beliefs are out of place, a cautious and consistent review of basic premises is needed, and no avenues of knowledge can be ruled out of the scope of education. It is pointed out that the latter field, operating very frequently in a sea of ignorance, "is determined by times and circumstances, by the available conceptions of a related group of health problems, and by the methods which may be useful for the resolution of these problems—hopefully with the prospect that successful resolution of problems will diminish the importance of the expert by providing effective measures to the non-expert."

This is a concept no less important to the public health expert than to the field of psychiatry. The book has many other points that apply far wider to scientific thought and practice than would be guessed from the title.

PAUL V. LEMKAU

Books Received

Listing in this column acknowledges the receipt of books and our appreciation to the senders. Space and the interests of readers will permit review of some, but not all, of the books listed.

ALLERGY RECIPES. Chicago, Ill.: American Dietetic Association, 1957. 64 pp. Price, $.50.

ATMOSPHERIC POLLUTION—ITS ORIGINS AND PREVENTION. A. R. Meetham (2nd ed.). New York: Pergamon Press, 1956. 302 pp. Price, $9.50.

ATOMIC RADIATION — THEORY, BIOLOGICAL HAZARDS, SAFETY MEASURES AND TREATMENT OF INJURY. Camden, N. J.: RCA Service Company, 1957. 110 pp. Price, $1.45.

BCG AND VOLE VACCINATION. K. Neville Irvine (2nd ed.). London: National Association for the Prevention of Tuberculosis, 1957. 103 pp. Price, $3.00.

BIOCHEMICAL DISORDERS IN HUMAN DISEASE. R. H. S. Thompson and E. J. King. New York: Academic Press, 1957. 843 pp. Price, $12.60.

CLUES TO SUICIDE. Edited by Edwin S. Shneidman; Norman L. Farberow; with a foreword by Karl A. Menninger. New York: McGraw-Hill, 1957. 227 pp. Price, $5.50.

COMMUNITY CHEST. A CASE STUDY IN PHILANTHROPY. J. R. Seeley, et al. Toronto, Canada: University of Toronto Press, 1957. 593 pp. Price, $7.50.

DISTRIBUTION OF DENTISTS IN THE UNITED STATES BY STATE, REGION, DISTRICT AND COUNTY. Chicago, Ill.: American Dental Association, 1957. 62 pp.

ECONOMIC STATUS OF THE AGED. Peter O. Steiner and Robert Dorfman. Berkeley, Calif.: University of California Press, 1957. 316 pp. Price, $5.00.

EDUCATORS GUIDE TO FREE FILMS 1957 (17th annual ed.). Randolph, Wis.: Educators Progress Service, 1957. 625 pp. Price, $7.00.

EFFECTS OF THE SULFONYLUREAS AND RELATED COMPOUNDS IN EXPERIMENTAL AND CLINICAL DIABETES. ANNALS OF THE NEW YORK ACADEMY OF SCIENCES. Vol. 71, Art. 1. Rachmiel Levine, et al. New York: The Academy, 1957. 292 pp. Price, $4.00.

EVALUATION OF THE 1954 FIELD TRIAL OF POLIOMYELITIS VACCINE—FINAL REPORT. Thomas Francis, Jr. Poliomyelitis Vaccine Evaluation Center, Department of Epidemiology, School of Public Health University of Michigan. Ann Arbor, Mich.: The University (Apr.), 1957. 562 pp.

EXPERIMENTAL DESIGNS. William G. Cochran and Gertrude M. Cox (2nd ed.). New York: Wiley, 1957. 611 pp. Price, $10.25.

FACTS ABOUT STATES FOR THE DENTIST SEEKING A LOCATION. Chicago, Ill.: American Dental Association, 1957. 34 pp.

FOOD FACTS TALK BACK. Chicago, Ill.: American Dietetic Association, 1957. 32 pp. Price, $.50.

FOOT TROUBLES. T. T. Stamm. New York: Philosophical Library, 1957. 122 pp. Price, $4.75.

GUILTY AND THE INNOCENT, THE. William Bixley. New York: Philosophical Library, 1957. 176 pp. Price, $6.00.

HEALTH AND HYGIENE. A. Leslie Banks and J. A. Hislop. London, England: Clifton House, 1957. 322 pp. Price, 15/–.

HEALTH EDUCATION IN THE SOUTH PACIFIC. TECHNICAL PAPER No. 96. Guy Loison and Lynford L. Keyes. Noumea, New Caledonia: South Pacific Commission, 1956. 52 pp. Price, 2/–Sterling.

HEALTH, SUCCESS, AND HAPPINESS FOR YOU. Irwinn F. Krimm. New York, N. Y.: Vantage Press, 1957. 247 pp. Price, $3.50.

MENTAL HEALTH RESOURCES IN NEW YORK CITY 1955–1956. Prepared by the staff of the New York City Community Mental Health Board, Paul V. Lemkau, Director. New York: Community Mental Health Board, 1956. 146 pp.

MEREDITH'S SCIENCE OF HEALTH. Warren H. Southworth and Arthur F. Davis (3rd ed.). New York: McGraw-Hill, 1957. 492 pp. Price, $5.00.

MIND OF THE MURDERER, THE. W. Lindesay Neustatter. New York: Philosophical Library, 1957. 232 pp. Price, $6.00.

MOON IS FULL, THE. Aileen Adair. New York: Philosophical Library, 1957. 200 pp. Price, $4.75.

MYSTERIES OF SCIENCE. John Rowland. New York: Philosophical Library, 1957. 214 pp. Price, $6.00.

NEUROPHARMACOLOGY—TRANSACTIONS OF THE THIRD CONFERENCE. Harold A. Abramson. New York: Josiah Macy, Jr. Foundation, 1957. 381 pp. Price, $4.50.

NEW PUBLIC HEALTH, THE. AN INTRODUCTION FOR MIDWIVES, HEALTH VISITORS AND SOCIAL WORKERS. Fred Grundy (4th ed.). London, England: H. K. Lewis, 1957. 214 pp. Price 18/–Net.

OLIGOPHRENIA IN COMBINATION WITH CONGENITAL ICHTHYOSIS AND SPASTIC DISORDERS. Torsten Sjogren and Tage Larsson. Copenhagen, Denmark: Ejnar Munksgaard, 1957. 112 pp. Price, 25 Swedish Crowns.

ORAL HYGIENE. Russell W. Bunting and collaborators (3rd ed.). Philadelphia, Pa.: Lea and Febiger, 1957. 334 pp. Price, $7.00.

ORGANIZATION AND LEGISLATION CONCERNING HEALTH AND SOCIAL ASSISTANCE IN TURKEY, THE. Republic of Turkey: Ministry of Health and Social Assistance. 50 pp.

PESTICIDE HANDBOOK 1957. Compiled and edited by Donald E. H. Frear (9th ed.). State College, Pa.: College Science Publishers, 1957. 216 pp. Price, paper bound $1.50; cloth bound, $3.00.

PHYSIOLOGY OF PREMATURITY—TRANSACTIONS OF THE FIRST CONFERENCE. Jonathan T. Lanman, editor. New York: Josiah Macy, Jr. Foundation Publication, 1957. 151 pp. Price, $3.25.

PLACEMENT OF ADOPTIVE CHILDREN, THE. J. Richard Wittenborn. Springfield, Ill.: Thomas, 1957. 189 pp. Price, $4.75.

PRACTICAL NUTRITION—PROFESSIONAL EDITION. Alice B. Peyton. Philadelphia, Pa.: Lippincott, 1957. 379 pp. Price, $3.60.

PREVENTION OF CHRONIC ILLNESS. CHRONIC ILLNESS IN THE UNITED STATES—VOLUME I. Commission on Chronic Illness. Cambridge, Mass.: Harvard University Press, 1957. 338 pp. Price, $6.00.

PROCEEDINGS—SECOND INSTITUTE OF REHABILITATION CENTERS. Chicago, Ill.: National Society for Crippled Children and Adults, 1957. 29 pp. Price, $1.00.

RESEARCH RELATING TO CHILDREN—BULLETIN NO. 5. Clearinghouse for Research in Child Life. Washington, D. C.: Gov. Ptg. Office, 1957. 124 pp. Price, $.75.

SCIENCE LOOKS AT SMOKING. Eric Northrup. New York: Coward-McCann, 1957. 190 pp. Price, $3.00.

SOCIAL WELFARE AND THE CITIZEN. Edited by Peter Archer. Baltimore, Md.: Penguin Books, 1957. 284 pp. Price, $.85.

SOCIOLOGY—WITH APPLICATION TO NURSING AND HEALTH EDUCATION. Francis J. Brown. New York: Prentice-Hall, 1957. 568 pp. Price, $6.75.

SURGEONS ALL. Harvey Graham. New York: Philosophical Library, 1957. 459 pp. Price, $10.00.

TABLES FOR USE WITH BINOMIAL SAMPLES. Donald Mainland; Lee Herrera; and Marion I. Sutcliffe. New York: University College of Medicine, Department of Medical Statistics, 1957. 83 pp. Price, $2.00.

VEGETABLE OILS IN NUTRITION WITH SPECIAL REFERENCE TO UNSATURATED FATTY ACIDS. Dorothy M. Rathmann. New York: Corn Products Refining, 1957. 70 pp. Free.

VIRUS IN THE CELL. J. Gordon Cook. New York: Dial Press, 1957. 208 pp. Price, $3.00.

A Selected Public Health Bibliography with Annotations

Bugaboo Interred—The title of this panel discussion (below) tells you what you need to know.

ANON. Fluorides Will Not Accumulate in Water Distribution Systems. Water Works Eng. 110, 7:702 (July), 1957.

Wise Words—"In view of the many factors which affect the death rate from arteriosclerotic heart disease, it is important to guard against the tendency to oversimplify and overgeneralize in accounting for variations in the incidence of the disease." Some of the many factors are pointed out in this brief paper.

ANON. Variations in Mortality from Coronary Disease. Statist. Bull. Metrop. Life Insur. Co. 38, 6:1 (June), 1957.

Knowing Your People—An entire issue of the one-and-only Health Education Journal is given over to discussions of the possible contributions of social anthropology to health education. Most

of the papers originated at a seminar of the London School of Economics and Political Science. The others might well have originated there and all are worth your effort to lay hands on this stimulating publication. You will also be interested in the reviews of two pertinent texts (American).

ANON. Knowing Your Area (and ten related papers). Health Ed. J. 15, 2:61 (May), 1957.

Weird and Wonderful—Did you know that "space doctors" are already at work conditioning human occupants for space travel machines? And, they say, space travel will come much sooner than you may expect. Naturally you will get little from the paper to apply to your mundane job but you will be intrigued with the account. Even the title is haunting!

ANON. Health in the Heavens. J.A.M.A. 164, 7:765 (June 15), 1957.

One for the Record—Close spatial and time relationships of poliomyelitis cases (in an explosive outbreak) revealed a correspondence between distribution of cases and location of certain defective flush-valve toilets, suggesting that the virus had been carried in contaminated drinking water. Testing the water supply at the plant would not have revealed contamination—it is pointed out.

BANCROFT, P. M., and EVANS, C. A. Poliomyelitis Virus in Huskerville (Lincoln) Nebraska. J.A.M.A. 164, 8:836 (June 22), 1957.

Lucky America—A short paper is replete with quotable passages about the abundance of food, which permits Americans to eat so luxuriously. Here are two. "Even with the food supply composed in such large part of the relatively high cost animal products, food is a notable bargain to the American people." "No other major population group . . . buys its food with such a small part of its income . . ." (Or gets such good food for its money, you might add).

DEGRAFF, H. Protein Foods—Supply and Comparative Costs. New York State J. Med. 57, 12:2092 (June 15), 1957.

"Over There"—A very brief consolidation of the findings of recent studies of the relation of smoking to lung cancer leads to an extended and typically thorough British discussion of what to do in the matter of prevention—a subject which, for the most part, is soft-pedalled on our side of the water. One schoolmaster is reported to have observed that the incidence of precocious smoking varies inversely with mental ability.

DOLL, R. Lung Cancer and Smoking. Roy. Soc. Promotion Health J. 77, 6:247 (June), 1957.

Booster Dose—A special section on mental health marks this issue of the Public Health Service's official mouthpiece. Eleven traditionally excellent "briefs" introduce five full length papers on administrative affairs. Then seven more "briefs" on ataractics lay the ground work for committee recommendations for reporting upon any drug studies in the mental health area. This series is a must, of course, for all who may be concerned, even remotely, with the topic.

FELIX, R. H. Concepts and Needs for Mental Health Pub. Health Rep. 72, 7:571 (July), 1957.

From Birth Onwards—This is the first of a series of papers, "which will recount in detail the results of the continuing observation of a group of approximately 150 newborn children and their household associates . . . undertaken in 1923 in an effort to describe the time when, and the circumstances under which, naturally acquired, primary immunizing infections with poliomyelitis viruses occur."

FOX, J. P., et al. Studies on the Develop-

ment of Natural Immunity to Poliomyelitis in Louisiana. Am. J. Hyg. 65, 2:344 (May), 1957.

They Also Serve—Paid and trained public health assistants do clerical work in clinics and schools, sometimes give direct care under close supervision, and do semitechnical or housekeeping chores for the professional personnel in the New York City Health Department. Many mistakes were made in setting up the service but now the assistants have become a necessary part of the team "without whom we could not function efficiently."

HEELY, P. I. Public Health Assistants. Nursing Outlook 5, 7:408 (July), 1957.

Preventable Poisoning—Tabulated here is almost every conceivable statistic about childhood accidents that could be distilled from a six-year experience in preventive staff education, parent education, and epidemiologic investigation.

JACOBZINER, H. Childhood Accidents and Their Prevention. Am. J. Dis. Child. 93, 6:647 (June), 1957.

The Food We Eat—Fifty types of Salmonella organisms were recovered (during a 16-year period) with S. typhimurium the most common. Peaks were in August—lows in February. Infections were considerably higher in children. Salmonellosis is not being controlled, the authors comment, and they think more should be done about control.

MACCREADY, R. A., et al. Salmonellosis in Massachusetts. New England J. Med. 256, 24:1121 (June 13), 1957.

Educational Camps—Built about a report on 30 camps for diabetic children (in the U. S. and Canada) is a frank, but heartening, discussion of the status of our knowledge of the care and treatment of juvenile diabetes. It ends, "Statements to the contrary notwithstanding, experience has shown that (success can be achieved) while still maintaining a happy and satisfying life for the child."

MARBLE, A. The Future of the Child with Diabetes. J. Am. Dietet. A. 33, 6:256 (June), 1957.

Occupational Hazard?—A five-year (Br.) study of tuberculosis morbidity reveals rates in excess among individuals employed at laboratory and autopsy tasks which expose them to infected pathological materials. Incidence was highest in the second and third years of such employment. Attack rates were three times those for nonexposed laboratory staffs.

REID, D. D. Incidence of Tuberculosis Among Workers in Medical Laboratories. Brit. M. J. 5035:10 (July 6), 1957.

Live or Killed Vaccines?—If long-term experience indicates that mass immunization with killed poliomyelitis vaccines is as effective as short-term experience would seem to indicate then immunization with live (attenuated) virus should not be necessary. If time should prove that killed virus vaccine does not confer long-term immunity then we might consider feeding the best available attenuated vaccine, suggests this author, who reports upon laboratory studies of the latter.

SABIN, A. B. Properties and Behavior of Orally Administered Attenuated Poliovirus Vaccine. J.A.M.A. 164, 11:1216 (July 13), 1957.

Professionals Are People—Then how do they get along with "society," which is also people? This keynote address is really a provocative sermon on the concessions which society makes to the professions and the consequent demands it makes upon them. You'll find the sermon good for you.

THURMAN, H. The Responsibility of the Professional Person to Society. Nursing Outlook 5, 6:344 (June), 1957.

Nature's Way vs. Ours—Since 1915 (through 1954) successive generations of children in New York State have enjoyed greatly reduced poliomyelitis mortality rates—among those who are still under age 15. During the same period mortality rates among persons over age 15 have remained substantially constant. Mortality for children born after 1955 (and until they reach age 15) may be expected to continue its downward trend until it reaches a rate (in 1959) of 0.2 to 0.8 per thousand. Mass artificial immunization, if effective, should speed up the reduction.

VOUCHT, R. L., and GREENBERG, M. Natural Immunization Against Poliomyelitis. J.A.M.A. 164, 10:1050 (July 6), 1957.

Against Conclusion Jumping—On the basis of an earlier study it has come to be assumed that there is a strong association between fat in the national diet and death rates from heart diseases. These authors evaluate the data of that study to test for "specificity," and conclude that the presumed association is not "specific" and cannot at the present time be considered valid.

YERUSHALMY, J., and HILLEBOE, H. E. Fat in the Diet and Mortality from Heart Disease. New York State J. Med. 57, 14:2343 (July 15), 1957.

If additional information is desired regarding the articles listed in the Bibliography, please communicate directly with the publications in which they appeared; the addresses are furnished for your convenience.

Am. J. Dis. Child. (American Journal of Diseases of Children). American Medical Association, 535 N. Dearborn St., Chicago 10, Ill.

Am. J. Hyg. (American Journal of Hygiene), 615 N. Wolfe St., Baltimore 5, Md.

Brit. M. J. (British Medical Journal), British Medical Association House, 19 Tavistock Sq., London, W.C. 1, England.

Health Ed. J. (Health Education Journal), Tavistock House, Tavistock Sq., London, W.C. 1, England.

J. Am. Dietet. A. (Journal of the American Dietetic Association), 620 N. Michigan Ave., Chicago, Ill.

J.A.M.A. (Journal of the American Medical Association), 535 N. Dearborn St., Chicago, Ill.

New England J. Med. (New England Journal of Medicine), Massachusetts Medical Society, 8 The Fenway, Boston 15, Mass.

New York State J. Med. (New York State Journal of Medicine), 292 Madison Avenue, New York 17, N. Y.

Nursing Outlook, American Journal of Nursing Company, 2 Park Ave., New York 16, N. Y.

Pub. Health Rep. (Public Health Reports). Gov. Ptg. Office, Washington, D. C.

Roy. Soc. Promotion Health J. (Royal Society for the Promotion of Health), 90 Buckingham Palace Road, London, S.W. 1, England.

Statist. Bull. Metrop. Life Insur. Co. (Statistical Bulletin Metropolitan Life Insurance Company), One Madison Avenue, New York 10, N. Y.

Water Works Eng. (Water Works Engineering), Reuben H. Donnelly Corporation, 305 East 45th St., New York, N. Y.

Preliminary Program of the Scientific Sessions

85th Annual Meeting

American Public Health Association

and

Meetings of Related Organizations

Cleveland, Ohio

November 11–15, 1957

The Public Auditorium is headquarters for the meeting and all scientific sessions will be held there, unless otherwise noted.

The 85th Annual Meeting officially opens on Monday morning at 10:30 with Part I of the Association Symposium. This general assembly for all delegates will take place in the Music Hall, Public Auditorium. The subject is "Are We Getting Public Health in Tune with the Times?" The first APHA Section meetings are scheduled for Monday afternoon and continue through Friday morning.

Related organizations will meet on Monday evening, Wednesday afternoon and evening, and Thursday morning. Some will meet on Sunday as indicated in the following pages.

Part II of the Association Symposium will bring the 85th Annual Meeting to a close on Friday afternoon.

The Registration Desk, in the lobby of the Lakeside Avenue entrance of the Public Auditorium, will open at 9:00 A.M. on Monday, at which time final programs will be available. Everyone is expected to register. The registration fee is $6.00 with nonprofessional wives and husbands exempt.

Sunday

ASSOCIATION OF TEACHERS OF PREVENTIVE MEDICINE

8:30 A.M.—Empire Room, Cleveland Hotel

Registration.

RESEARCH IN PREVENTIVE MEDICINE

Epidemiology of Cancer. Brian MacMahon, M.D.

Multiple Screening Versus Complete Examinations. Ray E. Trussell, M.D.; Jack Elinson, Ph.D.; and Patricia Collette.

Familial and Epidemiologic Aspects of Coronary Disease and Hypertension. Caroline Thomas, M.D.

Intermission.

The Influence of Natural and Artificially Induced Immunity on Alimentary Infections with Polioviruses. John P. Fox, M.D.; Henry M. Gelfand, M.D.; Dorothy R. LeBlanc, R.N.; and Dighton F. Rowan, Ph.D.

The Use of a Population of Families in Defining the Epidemiology of Adenovirus Infections. William S. Jordan, M.D.; George F. Badger, M.D.; Constance Curtiss, M.D.; and John H. Dingle, M.D.

Report of Amsterdam Meeting (September 1–7, 1957) of the International Corresponding Club. Topic: International Study Group on Current Epidemiologic Research. Harold N. Willard, M.D.

(Discussion limited to actual subject matter of the papers. More general discussion in the afternoon periods.)

12:30 P.M.– 2:00 P.M. Luncheon Recess

2:00 P.M.—Rooms 1, 3, 5, 7, and Parlor 31, Cleveland Hotel

Round-Table Discussions on Research Accomplishments and Opportunities in:

1. **Epidemiology of Cancer**
2. **Illness Surveys in Population Groups**
3. **Epidemiology of Coronary Disease and Hypertension**
4. **Epidemiology of Poliomyelitis**
5. **Epidemiology of Adenovirus Infections**

Preferences, showing first, second, and third choices for afternoon discussion sessions should be sent to William L. Fleming, M.D., School of Medicine, University of North Carolina, Chapel Hill, N. C.

(Cont.)

Sunday

ASSOCIATION OF TEACHERS OF PREVENTIVE MEDICINE—(Cont.)

4:00 P.M.—Empire Room, Cleveland Hotel

Business Meeting and Election of Officers.

6:30 P.M.—Empire Room, Cleveland Hotel

Dinner and Evening Session

The Public Health Service and Departments of Preventive Medicine. Leroy E. Burney, M.D.

Obtain dinner tickets in advance by mailing a check for $4.75 to C. Howe Eller, M.D., School of Medicine, University of Louisville, Louisville 2, Ky.

CONFERENCE OF STATE AND PROVINCIAL PUBLIC HEALTH LABORATORY DIRECTORS

9:30 A.M.—Ohio Room, Statler Hotel

Presiding: J. V. Irons, Sc.D.

Laboratory Control in Shellfish Sanitation. Cornelius B. Kelly.

Status of Interstate Milk Shipment Laboratory Certification. Luther A. Black, Ph.D.

Clinical and Serologic Evaluation of the Sussenguth-Kline Slide Test for Trichinosis. H. Sussenguth and Arthur H. Bauer.

Laboratory Work Loads: Methods of Evaluation. L. E. Elkerton, M.D., and Albert Dickman, Ph.D.

Discussants:
C. A. Perry, Sc.D.
E. L. Shaffer, Ph.D.

General Discussion.

2:30 P.M.—Ohio Room, Statler Hotel

Unconventional Public Health Laboratory Activities. Albert V. Hardy, M.D., and Melvin E. Koons, M.P.H.

Public Health Laboratory Diagnostic Procedures for Mental Illness. Leon Buchbinder, Ph.D., and A. Ferguson.

The Fingernail Cystine Test as a Potential Indicator of Chronic Diseases. Herbert E. Stokinger, Ph.D.

Business Session.

Sunday

CONFERENCE OF STATE DIRECTORS OF PUBLIC HEALTH TRAINING

2:30 P.M. and 8:00 P.M.—Terminal Room, Cleveland Hotel

CONFERENCE OF STATE AND PROVINCIAL HEALTH AUTHORITIES OF NORTH AMERICA

6:30 P.M.—Parlor C, Statler Hotel

Dinner and Evening Session

GOVERNING COUNCIL, AMERICAN PUBLIC HEALTH ASSOCIATION

4:00 P.M.—Euclid Ballroom, Statler Hotel

Open Meeting—All Members of the Association Are Welcome

6:30 P.M.—Pine Room, Statler Hotel

Dinner and Evening Session for Governing Council Members

MENTAL HEALTH NURSE CONSULTANTS

10:00 A.M.—Visiting Nurses Association, 3300 Chester Avenue

NATIONAL CONFERENCE FOR HEALTH COUNCIL WORK

9:00 A.M. and 2:30 P.M.—Directors' Room, Cleveland Hotel

Sunday

SOCIETY OF PUBLIC HEALTH EDUCATORS

9:30 A.M.—Club Rooms 341 and 345, Statler Hotel

Morning Coffee.

GENERAL PRESENTATION ON WORKING PRINCIPLES AND PRACTICES FOR MOTIVATION IN HEALTH EDUCATION

Panel Discussion

2:00 P.M.—Club Room 345 and Parlors D, F, G, L, and M, Statler Hotel

Group Discussion by Assigned Topics.

Summary and Feedback by Panel and Small Group Representatives.

7:00 P.M.—Club Room 345, Statler Hotel

Annual Banquet

9:00 P.M.—Club Room 341, Statler Hotel

Coffee Session

Monday, 10:30 A.M.

ASSOCIATION SYMPOSIUM

ARE WE GETTING PUBLIC HEALTH IN TUNE WITH THE TIMES?

Presented in Two Parts

Part I Monday, 10:30 A.M., Music Hall, Public Auditorium

Part II Friday, 2:30 P.M., Music Hall, Public Auditorium

The two preceding Association Symposia have centered in turn upon "Where Are We Going in Public Health?" and "How Are We Doing in Public Health?" At the 1955 Annual Meeting the Symposium considered current and future program needs in public health. In 1956 the Symposium explored the degree to which current practices in public health were meeting these needs.

In each instance the discussion has been broadening and challenging, leaving few if any finished blueprints but many intriguing sketches for further consideration in the interim by public health workers. Following the debate at the first session of the 1956 Symposium it was the general consensus that the practice of public health was not "in tune with the times." The present Symposium, therefore, will consider what can be done about some of the more pressing problems in public health today.

Part I will consist of a hearing before a distinguished Citizens' Committee convened to receive testimony from representative public health workers on pro-

(Cont.)

Monday, 10:30 A.M.

ASSOCIATION SYMPOSIUM—(Cont.)

gram changes and developments in community health services to meet current and future needs.

Part II will also take the form of a hearing, focused upon the activities of the APHA itself. A panel from the Governing Council of the Association will respond to a series of questions propounded in advance, with appropriate anonymity, by public health workers. This session will close with a summary of the Symposium entitled "Priorities for 1958."

Monday, 2:30 P.M.

DENTAL HEALTH SECTION

First Session—Club Room A, Public Auditorium

Presiding: Robert A. Downs, D.D.S., Chairman.

EXTENDED USE OF AUXILIARY PERSONNEL

Auxiliary Personnel in Medical Practice. John L. Caughey, Jr., M.D.

Potential of the Dental Hygienist in Public Health. Martha J. Fales, M.P.H.

The Dental Nurse in the United States. James M. Dunning, D.D.S.

Summary and Discussion. Joseph F. Volker, D.D.S.

ENGINEERING AND SANITATION AND FOOD AND NUTRITION SECTIONS, AND THE CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS

Joint Session—South Hall Room A, Public Auditorium

Presiding: Morton S. Hilbert, C.E.

IMPLICATIONS OF NEW DEVELOPMENTS IN FOOD AND MILK PROCESSING *

The Use of Chemicals and Antibiotics. Robert S. Roe.

Freezing and Irradiation. John T. R. Nickerson, Ph.D.; Bernard E. Proctor, Ph.D.; and S. A. Goldblith, Ph.D.

Packaging, Storage, and Vending. Walter D. Tiedeman.

Antibodies in Milk for Protection Against Human Disease. Berry Campbell, Ph.D., and W. E. Petersen, Ph.D.

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* Audience questions invited.

Monday, 2:30 P.M.

EPIDEMIOLOGY AND STATISTICS SECTIONS

Joint Session—Club Room B, Public Auditorium

Presiding: Wendell R. Ames, M.D.

SOME HEALTH SURVEY METHODS AND RESULTS

Study of the Effects of Housing Quality on Morbidity—Preliminary Findings. Daniel M. Wilner, Ph.D.; Rosabelle Price Walkley; Marvin N. Glasser; and Matthew Tayback, Sc.D.

Cancer of the Uterus in New York City and Israel. Lucia J. Dunham, M.D., and Harold F. Dorn, Ph.D.

Inquiry into Diagnostic Evidence on Which Medical Certifications of Death Are Based. Iwao M. Moriyama, Ph.D., and William M. Haenszel.

Concepts and Definitions Underlying the Household Interview for the National Health Survey. Forrest E. Linder, Ph.D., and Theodore D. Woolsey.

Discussant: (To be announced.)

HEALTH OFFICERS SECTION

First Session—Little Theatre, Public Auditorium

Presiding: J. W. R. Norton, M.D.

RESEARCH BY LOCAL HEALTH DEPARTMENTS

Moderator: Thomas D. Dublin, M.D.

Research and Public Health Practice. Edward G. McGavran, M.D.

Research by Local Health Departments—Problems, Methods, and Results. George James, M.D.

Research in Community Mental Health. John C. Glidewell, Ph.D., and Herbert R. Domke, M.D.

Applying Operations Research to Local Public Health Activities. Mark Blumberg, M.D.

LABORATORY SECTION

First Session—South Hall Room B, Public Auditorium

Presiding: Morris F. Shaffer, D.Phil., Chairman.

Serology Evaluation and Research Assembly Study Report (preliminary). W. G. Simpson and Ad Harris.

Section Studies in Progress:

Standardization of Reagents. Erwin Neter, M.D.
Evaluation of Performance. Nell F. Hollinger, Ph.D.
Examination of Eating Utensils. F. Wellington Gilcreas.

(Cont.)

Monday, 2:30 P.M.

LABORATORY SECTION—(Cont.)

Studies of Program Development:

The Mahoney Committee on Plan and Scope. Ralph S. Muckenfuss, M.D., and Daniel Widelock, Ph.D.

Procurement and Training of Laboratory Workers. Howard L. Bodily, Ph.D.

Research in Public Health Laboratories. George D. Cummings, M.D.

Implementing the Task Force Recommendations. (Speaker to be announced.)

Section and APHA Affairs:

Section Liaison Relationships. Erwin Neter, M.D.

Section Organization. Myrtle Greenfield.

Nominating Committee. Evan T. Bynoe, Ph.D.

MATERNAL AND CHILD HEALTH SECTION

First Session—South Hall Room C, Public Auditorium

Presiding: R. Gerald Rice, M.D., Chairman.

RESEARCH IN MATERNAL AND CHILD HEALTH

Summary of Research in Reproductive Wastage. George Anderson, M.D.

Discussion of Implications for Maternal and Child Health Programs. John Whitridge, Jr., M.D.

Study of Prenatal Care. Leonard S. Rosenfeld, M.D.

A Study of Social Stratification and Health Practices in Child Bearing and Child Rearing. Alfred Yankauer, M.D.; Walter E. Boek, Ph.D.; and Edwin Lawson.

Health Problems in Infants and Preschool Children. Helen M. Wallace, M.D.; Evelyn E. Hartman, M.D.; and Vernon Weckworth.

MEDICAL CARE, MENTAL HEALTH, AND PUBLIC HEALTH NURSING SECTIONS, AND THE JOINT COMMISSION ON MENTAL ILLNESS AND HEALTH

Joint Session—Music Hall, Public Auditorium

MEDICAL CARE OF THE MENTALLY ILL

Panel Discussion

Moderator: Milton Terris, M.D.

Participants:

Dale C. Cameron, M.D.
Albert Deutsch.
Caldwell B. Esselstyn, M.D.
Robert C. Hunt, M.D.
Louis S. Reed, Ph.D.
Benjamin Simon, M.D.
Harvey J. Tompkins, M.D.

Monday, 2:30 P.M.

OCCUPATIONAL HEALTH SECTION

First Session—Club Room C, Public Auditorium

Committee Reports:

Appraisal of Industrial Health Services. William J. McConnell, M.D., Chairman.

Education. Thomas F. Mancuso, M.D., Chairman.

Inclusion of Occupational Health Activities by Local Health Departments. Lester M. Petrie, M.D., Chairman.

Membership. Carl A. Nau, M.D., Chairman.

Scope and Coordination. Seward E. Miller, M.D., Chairman.

Small Plant Health Programs. Jan Lieben, M.D., Chairman.

Joint Committee on Industrial Environment. Lt. Colonel Alvin F. Meyer, Jr., USAF (MSC), Chairman.

Joint Committee on Medical Care Implications of Workmen's Compensation. Howard L. Reed, M.D., Chairman.

Business Session.

PUBLIC HEALTH EDUCATION AND SCHOOL HEALTH SECTIONS, AND THE AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Auditorium, Cleveland Health Museum, 8911 Euclid Avenue

Presiding: Delbert Oberteuffer, Ph.D.

The Cleveland Health Museum at Work in School and Public Health Education. Bruno Gebhard, M.D., and Winfield G. Doyle, Ed.D.

Adaptations of Audiovisual Materials for Schools and Communities. Elena M. Sliepcevich, D.P.E., and Frances E. Williamson, M.P.H.

Monday, 5:30 P.M.

RECEPTION TO THE PRESIDENT OF THE AMERICAN PUBLIC HEALTH ASSOCIATION

5:30–6:45 P.M., Whitehall Room and Grand Ballroom, Cleveland Hotel

All Registered Delegates and Exhibitors Are Invited

Monday, 6:30 P.M.

*CONFERENCE OF STATE AND PROVINCIAL PUBLIC HEALTH LABORATORY DIRECTORS

Dinner and Evening Session—Ohio Room, Statler Hotel

Old Uses for New Glass. Kimble Glass Company.

Report of the Committee on the Kimble Methodology Award.

Presentation of the Kimble Award. Paul W. Kabler, M.D.

* MILITARY GOVERNMENT-CIVIL AFFAIRS PUBLIC HEALTH SOCIETY

Dinner and Evening Session—Assembly Room B, Cleveland Hotel

*COMMITTEE ON MEDICAL CARE TEACHING OF THE ASSOCIATION OF TEACHERS OF PREVENTIVE MEDICINE

Dinner and Evening Session—Terminal Room, Cleveland Hotel

MEDICAL CARE TEACHING IN SCHOOLS OF PUBLIC HEALTH

Panel Discussion

Moderator: Nathan Sinai, Dr.P.H.

Historical Review. Solomon J. Axelrod, M.D.
The Students. Edward S. Rogers, M.D.
Curriculum Content. Franz Goldmann, M.D.
Teaching Methods. John R. McGibony, M.D.
Perspectives. Ray E. Trussell, M.D.

* ENGINEERING AND SANITATION SECTION, THE CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS, THE CONFERENCE OF STATE SANITARY ENGINEERS, THE INTER-AMERICAN ASSOCIATION OF SANITARY ENGINEERING (U.S.A. SECTION), AND THE OHIO ASSOCIATION OF SANITARIANS

Annual Engineers' Stag Dinner, Preceded by Social Hour at 5:30 P.M., Empire Room, Cleveland Hotel

* Tickets will be on sale at the registration desk.

Monday, 6:30 P.M.

*INTERNATIONAL UNION FOR HEALTH EDUCATION OF THE PUBLIC

Dinner and Evening Session—Euclid Ballroom, Statler Hotel

Monday, 8:00 P.M.

AMERICAN SCHOOL HEALTH ASSOCIATION

First Session—Ballroom, Hollenden Hotel

Presiding: I. P. Barrett, M.D.

The President's Report for 1957. Fred V. Hein, Ph.D.

The Secretary's Report for 1957. A. O. DeWeese, M.D.

The School Nurse as a Family Health Adviser. Alma H. Garside, R.N.

Intramural Psychiatry in the Public Schools. Oscar B. Markey, M.D.

ASSOCIATION OF STATE MATERNAL AND CHILD HEALTH AND CRIPPLED CHILDREN'S DIRECTORS

First Session—Parlors 30 and 32, Cleveland Hotel

ASSOCIATION OF STATE AND TERRITORIAL NUTRITION DIRECTORS

First Session—Parlor 34, Cleveland Hotel

EVALUATION OF NUTRITION PROGRAMS

Monday, 9:00 P.M.

*MENTAL HEALTH SECTION

Social Hour—Assembly Room A, Cleveland Hotel

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*Tickets will be on sale at the registration desk.

Tuesday, 8:00 A.M.

*ASSOCIATION OF THE ALUMNI OF THE COLUMBIA UNIVERSITY SCHOOL OF PUBLIC HEALTH

Breakfast Session—Club Room 345, Statler Hotel

NATIONAL ADVISORY COUNCIL, CLEVELAND HEALTH MUSEUM

Breakfast Session—Lecture Hall, Cleveland Health Museum, 8911 Euclid Avenue

*TULANE UNIVERSITY ALUMNI

Breakfast Session—Parlor 1, Statler Hotel

Tuesday, 9:45 A.M.

DENTAL HEALTH, MEDICAL CARE, OCCUPATIONAL HEALTH, AND PUBLIC HEALTH EDUCATION SECTIONS, AND THE ASSOCIATION OF LABOR HEALTH ADMINISTRATORS

Joint Session—Music Hall, Public Auditorium

Presiding: James P. Dixon, Jr., M.D.

HEALTH SERVICES FOR WORKERS

Coordination of Health and Medical Services for Working Men and Their Families: A Philosophical Discussion. Leona Baumgartner, M.D.

Moderator: James P. Dixon, Jr., M.D.

Industrial Physician. Norman Plummer, M.D.
Union Health Center. Lorin E. Kerr, M.D.
Public Health Nurse. Emilie G. Sargent, R.N.
Medical Social Worker. Bess Dana.
Public Health Educator. Howard J. Stroud, M.P.H.
Public Health Dentist. Arthur Bushel, D.D.S.

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*Tickets will be on sale at the registration desk.

Tuesday, 9:45 A.M.

ENGINEERING AND SANITATION SECTION

First Session—South Hall Room B, Public Auditorium

Presiding: Morton S. Hilbert, C.E., and Mark D. Hollis, C.E.

THE SECTION LOOKS AT ITSELF *

What the Task Force Report Means to Our Section. Dwight F. Metzler, C.E.

How Can We Improve Our Section Committee Activities? Jerome B. Trichter.

ENVIRONMENTAL HEALTH PRACTICE AND NEEDS

Panel Discussion

Moderator: Clarence W. Klassen.

Participants:

Herbert J. Dunsmore.
Morton S. Hilbert, C.E.
Blucher A. Poole.
Paul W. Purdom.
Walter F. Snyder.
Jerome B. Trichter.

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* Audience participation invited.

EPIDEMIOLOGY AND LABORATORY SECTIONS

Joint Session—Club Room B, Public Auditorium

Presiding: Francis S. Cheever, M.D.

VIROLOGY AND VIRUS DISEASES

Current Views of the North American "Arbor" Virus Problem. Morris F. Shaffer, D.Phil.; Robert Kissling, D.V.M.; and R. W. Chamberlain, Sc.D.

ECHO Viruses. Jerome T. Syverton, M.D.

Efficacy of and Indications for Use of Adenovirus Vaccine. Maurice R. Hilleman, Ph.D.

Use of a Portable Tissue Culture Laboratory in a Field Study of Tropical Poliomyelitis. Joseph L. Melnick, Ph.D.

Epidemiological Studies of Aseptic Meningitis Caused by Coxsackie Virus B5. Tom D. Y. Chin, M.D.; Patrick H. Lehan, M.D.; Harry Rubin, M.D.; Irene L. Doto; Herbert A. Wenner, M.D.; and Michael L. Furcolow, M.D.

Tuesday, 9:45 A.M.

FOOD AND NUTRITION SECTION

First Session—Club Room A, Public Auditorium

Presiding: Robert E. Shank, M.D., Chairman.

CHANGES IN THE AMERICAN PATTERN OF DIET—FOOD IMPLICATIONS

HEALTH OFFICERS SECTION

Second Session—Ballroom, Public Auditorium

Presiding: Robert N. Barr, M.D., Chairman.

THE TASK FORCE REPORT

Panel Discussion

Participants:

Roscoe P. Kandle, M.D.
James E. Perkins, M.D.
Ellis D. Sox, M.D.

Audience Participation.

Business Session.

LABORATORY SECTION

Second Session—Parlor C, Statler Hotel

Presiding: F. Wellington Gilcreas.

METHODS FOR THE EXAMINATION OF WATER AND SEWAGE

A New Medium for the MF Technic. Joseph A. McCarthy.

The Boric Acid Lactose Broth Reaction of Coliform IMVIC Types. Paul W. Kabler, M.D.

A Simple Medium for the Detection of Acetyl Methyl Carbinol. Elizabeth D. Robinton, Ph.D.

Bacto-Strips: Application to the Bacteriological Examination of Water. Committee Report.

Tuesday, 9:45 A.M.

MATERNAL AND CHILD HEALTH SECTION

Second Session—Assembly Room B, Cleveland Hotel

Presiding: Martha L. Clifford, M.D.

The Citizens' Participation in Promoting Services for Mothers and Children. Marion Ascoli.

Programs and Services for Mothers and Children Through the National Institute of Mental Health. Robert H. Felix, M.D.

Coordination of Maternal and Child Health and Crippled Children Services with Teaching Services. John A. Lichty, M.D.

MENTAL HEALTH SECTION

First Session—South Hall Room C, Public Auditorium

Presiding: Morton Kramer, D.Sc.

Date of Birth and Incidence of Mental Deficiency. Hilda Knobloch, M.D., and Benjamin Pasamanick, M.D.

Discussant: Theodore H. Ingalls, M.D.

The Interpersonal Relations Seminar in Mental Health Education: Method and Evaluation. Hyman M. Forstenzer; Dorene J. Loso, R.N.; and Joseph J. Downing, M.D.

Discussant: Roger W. Howell, M.D.

Health Department Participation in a Developing Community Mental Health Program. Henrik L. Blum, M.D., and Warren A. Ketterer, M.D.

Discussant: James F. Maddux, M.D.

PUBLIC HEALTH NURSING SECTION

First Session—Little Theatre, Public Auditorium

Presiding: Julia D. Smith, R.N., Chairman.

Section Business.

Implementation of Task Force Report. (Speaker to be announced.)

Discussion.

Tuesday, 9:45 A.M.

SCHOOL HEALTH SECTION

First Session—South Hall Room A, Public Auditorium

Presiding: Edward B. Johns, Ed.D., Chairman.

Section Business and Election of Officers.

Report of the Secretary. Florence L. Fogle.
Report of Chairman of Membership Committee. Marjorie L. Craig.
Report of Chairman of Editorial Committee. Patricia J. Hill, M.P.H.
Report of Chairman of Nominating Committee. Franklin M. Foote, M.D.

THE HEALTH INSTRUCTION PROGRAM

Problems in Developing an Adequate Health Instruction Program. Martin Essex.

Interrogators:
Mabel E. Rugen, Ph.D.
Alice Schriver, Ed.D.

Building Status and Public Support for Health Teaching in Schools. Bernice R. Moss, Ed.D.

Interrogators:
Cloyd Julian.
Lola Lohse.

STATISTICS SECTION

First Session—Club Room C, Public Auditorium

Presiding: Bernard G. Greenberg, Ph.D.

Report of Section Committee on Cause-of-Death Statistics. Mortimer Spiegelman.

Discussion.

Implications of the APHA Task Force Report for the Statistics Section. (Speaker to be announced.)

Discussion.

Business Session.

Tuesday, 12:30 P.M.

*ENGINEERING AND SANITATION SECTION

Luncheon Session—Ohio Room, Statler Hotel

Presiding: Morton S. Hilbert, C.E., Chairman.

Section Business and Election of Officers.

*Tickets will be on sale at the registration desk.

Tuesday, 12:30 P.M.

* EPIDEMIOLOGY SECTION

Luncheon Session—Terminal Room, Cleveland Hotel

Presiding: Wendell R. Ames, M.D., Chairman.

The Task Force Report and the Epidemiology Section. Discussion to be led by representatives of the Section to the Governing Council.

Election of Officers.

Election of Section Council.

* FOOD AND NUTRITION SECTION

Luncheon Session—Rose Room, Cleveland Hotel

Presiding: Robert E. Shank, M.D., Chairman.

Section Business and Election of Officers.

* MATERNAL AND CHILD HEALTH SECTION

Luncheon Session—Assembly Room A, Cleveland Hotel

* PUBLIC HEALTH NURSING SECTION

Luncheon Session—Higbee Department Store

Presiding: Julia D. Smith, R.N., Chairman.

A TRIBUTE TO PEARL McIVER, R.N.

* SCHOOL HEALTH SECTION

Luncheon Session—Pine Room, Statler Hotel

Presiding: Edward B. Johns, Ed.D., Chairman.

COMMEMORATING THE FIFTEENTH ANNIVERSARY OF THE SCHOOL HEALTH SECTION

Guest Speaker: Leona Baumgartner, M.D.

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* Tickets will be on sale at the registration desk.

Tuesday, 2:30 P.M.

COMMITTEE ON RESOLUTIONS, AMERICAN PUBLIC HEALTH ASSOCIATION

First Session—Club Room 341, Statler Hotel

PUBLIC READING OF ALL RESOLUTIONS RECEIVED, BEFORE PRESENTATION TO THE GOVERNING COUNCIL

DENTAL HEALTH SECTION

Second Session—Club Room A, Public Auditorium

Presiding: Robert A. Downs, D.D.S., Chairman.

DENTAL MANPOWER AND THE PUBLIC HEALTH

The Growing Shortage of Dentists in the United States. Quentin Smith, D.D.S.

A Regional Approach to Increasing Dental Training Facilities. Russell S. Poor, Ph.D.

The State Health Agency and Dental Manpower. Wesley O. Young, D.M.D.

The American Dental Association's Responsibility in the Manpower Problem. Shailer Peterson, Ph.D.

ENGINEERING AND SANITATION, EPIDEMIOLOGY, LABORATORY, AND OCCUPATIONAL HEALTH SECTIONS

Joint Session—Ballroom, Public Auditorium

Presiding: Morton S. Hilbert, C.E.

PANORAMA ON AIR POLLUTION *

Epidemiology and Health Effects. Lester Breslow, M.D.

New Research Implications for Detection and Measurement. Louis C. McCabe, Ph.D.

ROLE OF THE HEALTH DEPARTMENT IN AIR POLLUTION CONTROL PROGRAMS

Panel Discussion

Moderator: Frank M. Stead.

Participants:

J. B. Askew, M.D.
W. Wendell Hewson, Ph.D.
Paul W. Purdom.
John C. Soet.

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* Audience participation invited.

Tuesday, 2:30 P.M.

FOOD AND NUTRITION SECTION

Second Session—Rose Room, Cleveland Hotel

Presiding: Robert E. Shank, M.D., Chairman.

NUTRITIONAL IMPROVEMENT THROUGH FOOD ENRICHMENT—TECHNICS AND PROGRAMS

The philosophy of food enrichment and the possibilities of protein enrichment will be part of the program.

HEALTH OFFICERS AND STATISTICS SECTIONS, AND THE AMERICAN ASSOCIATION OF REGISTRATION EXECUTIVES

Joint Session—Little Theatre, Public Auditorium

Presiding: Berwyn F. Mattison, M.D.

LOCAL HEALTH DEPARTMENT RECORDS

Records in Today's Public Health Programs. Alpha K. Kenny.

Integration of Local Health Department Records with Program Needs. Nancy W. Lucas.

The Role and Use of Codes for Compiling Service Statistics. John J. Freysinger, M.P.H., and Fay M. Hemphill, Ph.D.

The Development, Application, and Evaluation of the Wayne County Public Health Nursing Record System with an Analysis of the Statistical Methods Used. Amalia Krause, R.N., and Irvin R. Vaughn.

Discussant: (To be announced.)

LABORATORY SECTION

Third Session—South Hall Room A, Public Auditorium

Presiding: Morris F. Shaffer, D.Phil., Chairman.

TUBERCULOSIS

A Synthetic Autoclavable Medium for a Routine Tuberculosis Laboratory. Lenore R. Peizer; Louis Basso; and Daniel Widelock, Ph.D.

The Rapid Slide Technic for Culturing M. tuberculosis. A Comparison with Conventional Procedures. Roger W. Reed, M.D., and Donald M. Simpson.

Bacteriological and Epidemiological Studies of Pulmonary Diseases Associated with Atypical Acid-Fast Bacilli. Albert V. Hardy, M.D.; James O. Bond, M.D.; Frank Dunbar; and Mildred Jefferies.

Significance of Atypical Mycobacteria in Disease. Emanuel Wolinsky, M.D.

Tuesday, 2:30 P.M.

MATERNAL AND CHILD HEALTH, MENTAL HEALTH AND SCHOOL HEALTH SECTIONS, AND THE AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Music Hall, Public Auditorium

Presiding: Robert H. Felix, M.D.

THE MENTAL HEALTH OF THE SCHOOL-AGE CHILD

Screening in Schools for Behavior Disorders: Use of Mothers' Reports of Symptoms. John C. Glidewell, Ph.D., and Herbert R. Domke, M.D.

The Epidemiology of Some Behavior Characteristics in Children as Reported by Mothers: A Pilot Study. Rema Lapouse, M.D., and Mary A. Monk, Ph.D.

Discussant: Robert E. Patton, M.P.H.

An Evaluation of Psychiatric Consultation Service for a Public Agency. Leon Eisenberg, M.D.

Discussant: Robert E. Thomas, M.D.

MEDICAL CARE SECTION AND THE AMERICAN ASSOCIATION OF HOSPITAL CONSULTANTS

Joint Session—South Hall Room C, Public Auditorium

Presiding: Henry B. Makover, M.D.

HOSPITALS AND MEDICAL CARE

The Future Role of Hospitals in Medical Care. Albert W. Snoke, M.D.

Physicians' Offices in Hospitals. C. Rufus Rorem, Ph.D.

Social Medicine in Hospitals. George A. Silver, M.D.

Discussant: (To be announced.)

PUBLIC HEALTH EDUCATION SECTION

First Session—South Hall Room B, Public Auditorium

Presiding: Robert O. Yoho, Chairman.

COMMUNICATIONS AND MASS MEDIA

Televising an Annual Report. Sophus R. Christensen.

A Working Conference in Health Education. Claire S. Koral.

Business Meeting.

Report of Standing Committees.

Election of Officers.

Tuesday, 2:30 P.M.

PUBLIC HEALTH NURSING SECTION

Second Session—Club Room B, Public Auditorium

Presiding: Julia D. Smith, R.N., Chairman.

THE MEANING OF RESEARCH FOR PUBLIC HEALTH NURSES AND PUBLIC HEALTH NURSING

Panel Discussion

Moderator: Margaret G. Arnstein, R.N.

Participants:

Vera E. Fry, Ed.D.
Dorothy Wilson, Ed.D.
(Others to be announced.)

A Study of Extra-Hospital Nursing Needs. Janice E. Mickey, R.N.

Child Health Conference Survey. Alice Jensen.

Tuesday, 5:30 P.M.

* NATIONAL TUBERCULOSIS ASSOCIATION

Social Hour, Followed by Dinner at 6:30 P.M., Ohio Room, Statler Hotel

All Tuberculosis Association Workers and Their Guests Are Invited

* PUBLIC HEALTH EDUCATION SECTION

Social Hour—Rose Room, Cleveland Hotel

* UNIVERSITY OF MICHIGAN ALUMNI

Social Hour—Euclid Ballroom, Statler Hotel

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* Tickets will be on sale at the registration desk.

Tuesday, 8:30 P.M.

FIRST GENERAL SESSION

Music Hall, Public Auditorium

Presiding: John W. Knutson, D.D.S., President, American Public Health Association.

Addresses of Welcome.

Greetings From the Royal Society of Health. Harrold Burrow, M.R.C.V.S., D.V.S.M., F.R.S.H.

President's Address: Ferment in Public Health. John W. Knutson, D.D.S.

Presentation of the Sedgwick Memorial Medal.

Delta Omega Lecture: Some Aspects of Multidisciplinary Professions. Lowell J. Reed, Ph.D., President Emeritus, Johns Hopkins University.

Wednesday, 8:00 A.M.

* GEORGE PEABODY COLLEGE FOR TEACHERS

Breakfast Session—Rose Room, Cleveland Hotel

* GRADUATES' ORGANIZATION, SCHOOL OF HYGIENE, UNIVERSITY OF TORONTO

Breakfast Session—Club Room 345, Statler Hotel

* THE JOHNS HOPKINS UNIVERSITY ALUMNI

Breakfast Session—Pine Room, Statler Hotel

* MASSACHUSETTS INSTITUTE OF TECHNOLOGY ALUMNI

Breakfast Session—Parlor 1, Statler Hotel

* UNIVERSITY OF MICHIGAN ALUMNI

Breakfast Session—Ohio Room, Statler Hotel

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* Tickets will be on sale at the registration desk.

Wednesday, 9:45 A.M.

DENTAL HEALTH, ENGINEERING AND SANITATION, HEALTH OFFICERS, AND OCCUPATIONAL HEALTH SECTIONS

Joint Session—Ballroom, Public Auditorium

Presiding: Morton S. Hilbert, C.E.

RADIATION PROTECTION *

Current Status in Setting Radiation Exposure Standards—Symposium.

Biologist's Viewpoint. (Speaker to be announced.)
Physicist's Viewpoint. (Speaker to be announced.)

Community Health Problems Due to Peace Time Uses of Radiation. Roy J. Morton, C.E.

Program Planning for Radiation Protection. Herman E. Hilleboe, M.D., and Alexander Rihm, Jr.

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* Audience participation invited.

EPIDEMIOLOGY SECTION AND THE PUBLIC HEALTH CANCER ASSOCIATION OF AMERICA

Joint Session—South Hall Room C, Public Auditorium

Presiding: Wendell R. Ames, M.D.

EPIDEMIOLOGY OF CARCINOMA OF THE CERVIX UTERI

Some Epidemiological Aspects of the Problem of Uterine Cancer. Raymond F. Kaiser, M.D.

Preliminary Findings of the Memphis-Shelby County, Tennessee, Field Study and Their Interpretation. Alexander G. Gilliam, M.D.; John E. Dunn, Jr., M.D.; Mary Walton, M.D.; and Frank Lundin, M.D.

Panel Discussion:

John R. Heller, Jr., M.D., Moderator.

Participants:

John K. Frost, M.D.
Paul Kimmelstiel, M.D.
James W. Reagan, M.D.
Douglas H. Sprunt, M.D.

Wednesday, 9:45 A.M.

FOOD AND NUTRITION SECTION

Third Session—Club Room A, Public Auditorium

Presiding: Robert E. Shank, M.D., Chairman.

NUTRITION AS A FACTOR IN THE ETIOLOGY OF LONG-TERM ILLNESS

Papers will be centered on the program of Highland View Hospital, a facility for chronic illness in Cleveland. David R. Weir, M.D., Director of Medical Services at Highland View and Associate Professor of Medicine at Western Reserve University Medical School, and members of his staff will participate.

LABORATORY SECTION AND THE CONFERENCE OF PUBLIC HEALTH VETERINARIANS

Joint Session—Little Theatre, Public Auditorium

Presiding: Ernest S. Tierkel, V.M.D.

Studies on the Ecology of Equine Encephalitis. Donald Stamm, V.M.D., and Robert Kissling, D.V.M.

Some Current Concepts in the Epidemiology of Leptospirosis. Mildred M. Galton, and Robert W. Menges, D.V.M.

Problems in the Care of Laboratory Animals. Bennett Cohen, D.V.M.

Cytopathogenic Porcine Viruses Isolated in Tissue Culture. George Beran, D.V.M.

Research Program at the Institute of Agricultural Medicine, University of Iowa Medical School. Richard A. Tjalma, D.V.M.

MATERNAL AND CHILD HEALTH AND PUBLIC HEALTH NURSING SECTIONS

Joint Session—Club Room B, Public Auditorium

Presiding: Samuel M. Wishik, M.D.

CHILDREN WITH CHRONIC DISEASE

Needs of Children with Chronic Disease. John A. Anderson, Ph.D.

New Programs for Mentally Retarded Children. Arthur J. Lesser, M.D.

Michigan Program for Children Who Are Amputees. Carleton Dean, M.D.

Children with Rheumatic Fever in Minnesota. A. B. Rosenfield, M.D.

Discussants:

Herbert R. Kobes, M.D.
Marion I. Murphy, R.N.
Elizabeth P. Rice.

Wednesday, 9:45 A.M.

MEDICAL CARE SECTION AND THE ASSOCIATION OF LABOR HEALTH ADMINISTRATORS

Joint Session—South Hall Room A, Public Auditorium

Presiding: Margaret C. Klem.

RECENT DEVELOPMENTS IN PREPAYMENT

Major Medical Expense. Charles Siegfried.

Problems in Voluntary Insurance: Some Answers from the Windsor Experience. Benjamin J. Darsky; Nathan Sinai, Dr.P.H.; and Solomon J. Axelrod, M.D.

Recent Developments in Blue Shield. James E. Bryan.

Recent Developments in Blue Cross. J. Douglas Colman.

PUBLIC HEALTH EDUCATION AND SCHOOL HEALTH SECTIONS, AND THE AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Music Hall, Public Auditorium

Presiding: Elena M. Sliepcevich, D.P.E.

Progress Report of the Joint Committee on Conservation of Hearing. C. Adele Brown, M.D.

NATIONAL, STATE AND LOCAL CONFERENCES FOR BETTER COOPERATION IN SCHOOL HEALTH

Sixth National Conference on Physicians and Schools (Highland Park). American Medical Association. Donald A. Dukelow, M.D.; Wallace Ann Wesley, H.S.D.; and Fred V. Hein, Ph.D.

One-Day School Health Workshops in Indiana. Robert O. Yoho.

A State Planning Committee for Health Education. P. C. Bechtel.

An Ohio (Summit County) Team in Action.

Moderator: Jeanette A. Wooding, R.N.

Participants:

Fred Bode.
Carl Coffeen.
Helen Coup.
Albert T. Dillehay.
Robert M. Erwine.
Florence Hellman.
Ruth E. Joy.
Margaret H. Moore, M.D.
John D. Morley, M.D.
Mrs. Harold Muller.
Oliver Ocasek.
John Padrutt.
Robert H. Richards, D.D.S.
James Warfield.

Wednesday, 9:45 A.M.

STATISTICS SECTION

Second Session—South Hall Room B, Public Auditorium

Presiding: Matthew Tayback, Sc.D.

TOPICS IN STATISTICAL METHODOLOGY

Applications of Order Statistics to Health Data. Bernard G. Greenberg, Ph.D., and A. E. Sarhan.

Sequential Methods in Clinical Trials. P. Armitage, Ph.D.

Sampling and Discriminant Problems in a Rheumatic Heart Disease Case-Finding Study. E. A. Gehan.

Wednesday, 12:30 P.M.

* ASSOCIATION OF LABOR HEALTH ADMINISTRATORS

Luncheon and Afternoon Session—Ohio Room, Statler Hotel

Presiding: Morris A. Brand, M.D., President.

* ASSOCIATION OF SCHOOLS OF PUBLIC HEALTH

Luncheon Session—Parlor C, Statler Hotel

* CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS

Luncheon and Afternoon Session—Rose Room, Cleveland Hotel

Committee Reports:

Eligibility Requirements. Paul W. Purdom, Chairman.
Administration of Air Pollution. Charles M. Copley, Jr., Chairman.
Professional Development. Norman M. Winch, Chairman.

(Cont.)

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* Tickets will be on sale at the registration desk.

Wednesday, 12:30 P.M.

*CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS—(Cont.)

Membership. Dixon R. Olive, Jr., Chairman.
National Sanitation Foundation Equipment Standards. Morton S. Hilbert, C.E., Chairman.
Salaries. Walter A. Lyon, Chairman.
Small Sewerage Plants. Benn J. Leland, Chairman.
Housing. Leonard J. Czerniecki, Chairman.
Swimming Pools. William Truitt Ingram, M.P.H., Chairman.

*DENTAL HEALTH SECTION

Luncheon and Afternoon Session—Parlors F, G, and H, Statler Hotel

Business Session Following Luncheon.

*HEALTH OFFICERS SECTION

Luncheon Session—Pine Room, Statler Hotel

Presiding: Robert N. Barr, M.D., Chairman.

Preventive Medicine as a Major Function of the Hospital—From the Point of View of Public Health. Edwin L. Crosby, M.D.

This will be a discussion-participation luncheon similar to those held in former years. Copies of Dr. Crosby's paper will be distributed in advance to those making luncheon reservations. The subject will be discussed at the separate tables during luncheon and from the floor afterward. Dr. Crosby will be present to join in the discussion.

*MENTAL HEALTH SECTION

Luncheon Session—Empire Room, Cleveland Hotel

Presiding: Paul V. Lemkau, M.D.

Report of Section Council.

Mental Health Section Program for 1958—A Membership Discussion.

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*Tickets will be on sale at the registration desk.

Wednesday, 12:30 P.M.

* NATIONAL CITIZENS COMMITTEE FOR THE WORLD HEALTH ORGANIZATION

Luncheon Session and Fifth Annual Meeting—Grand Ballroom, Cleveland Hotel

Presiding: James E. Perkins, M.D., President.

Address: The Honorable Walter H. Judd, M.D., United States Congressman from Minnesota.

Everyone Invited

* STATISTICS SECTION

Luncheon Session—Club Room 345, Statler Hotel

Wednesday, 2:30 P.M.

AMERICAN ASSOCIATION OF PUBLIC HEALTH PHYSICIANS

First Session—Music Hall, Public Auditorium

AMERICAN SCHOOL HEALTH ASSOCIATION

Second Session—Club Rooms A and C, and South Hall Room C, Public Auditorium

Health Instruction Section—Club Room A, Public Auditorium

Presiding: William K. Streit.

Promoting Better School Health in Our Changing Times—A Symposium.

Vitalizing High School Health Education. Frances Hottenstein.

Improving Elementary School Health Education. Helen M. Massengale, M.S.P.H.

The Contributions of Voluntary Agencies to School Health. Ralph H. Boatman, Jr., M.D.

Family Life Education in the School Health Program. Anne R. Falther, R.N.

School Adjustment and Mental Health. John T. Nurnberger, M.D.

(Cont.)

* Tickets will be on sale at the registration desk.

Wednesday, 2:30 P.M.

AMERICAN SCHOOL HEALTH ASSOCIATION—(Cont.)

School Health Services Section—Club Room C, Public Auditorium

Presiding: I. P. Barrett, M.D.

Periodic Evaluation of Routines and Records May Be Milestones or Guideposts in the Progress of a School Health Program. Marie A. Hinrichs, M.D.

Correlation Between Public Health and School Health. Austin E. Hill, M.D.

School Nurses Section—South Hall Room C, Public Auditorium

Presiding: Florine N. Thomason, R.N.

The Preparation of the School Nurse—A Symposium.

Moderator: Guy N. Magness, M.D.

Participants:

Gertrude Cromwell, R.N.
Lula P. Dilworth, R.N.
Ruth Taylor, R.N.

ASSOCIATION OF BUSINESS MANAGEMENT IN PUBLIC HEALTH

First Session—Ballroom, Public Auditorium

Presiding: Marion L. Henry.

CREATIVE THINKING AND BRAINSTORMING

Fundamental Aspects of Creative Thinking. (Speaker to be announced.)

Developing Creative Attitudes in an Organization. (Speaker to be announced.)

Brainstorming Clinic. Charles H. Clark.

ASSOCIATION OF STATE AND TERRITORIAL NUTRITION DIRECTORS

Second Session—Parlors 30 and 32, Cleveland Hotel

Business Meeting.

Wednesday, 2:30 P.M.

CONFERENCE OF PUBLIC HEALTH VETERINARIANS

First Session—South Hall Room B, Public Auditorium

Presiding: Robert D. Courter, D.V.M.

Studies on the Preparation of Antirabies Serum Fractions of Human Origin. Robert Kissling, D.V.M.; Gordon Wallace, D.V.M.; Thomas S. Hosty, Ph.D.; and Eugene H. Dibble, Jr., M.D.

Rural Environmental Health Studies. Donald G. DeValois, D.V.M.

NEWER KNOWLEDGE IN PSITTACOSIS-ORNITHOSIS

Panel Discussion

a. **Epidemiologic Considerations.**
b. **Antibiotic Prophylaxis and Therapy.**
c. **Prospects for Improved Control Methods.**

Moderator: J. V. Irons, Sc.D.

Participants:

John Delaplane, D.V.M.
Morris Pollard, D.V.M.
Harold M. Erickson, M.D.
E. M. Dickinson, D.V.M.
Claude E. Dolman, M.B.

Session Open to All Delegates

GOVERNING COUNCIL, AMERICAN PUBLIC HEALTH ASSOCIATION

Second Meeting—Euclid Ballroom, Statler Hotel

Open Meeting—All Members of the Association Are Welcome

LABORATORY SECTION AND THE CONFERENCE OF DIRECTORS OF STATE AND PROVINCIAL PUBLIC HEALTH LABORATORIES

Joint Session—Pathology Amphitheatre, Cleveland City Hospital, 3395 Scranton Road

Presiding: J. Glen Smith, M.D.

The Role of the Environment in the Spread of Streptococcal Disease. Charles H. Rammelkamp, Jr., M.D.

Problems of Immunization Against Streptococcal Infections. Willard C. Schmidt, M.D.

(Cont.)

Wednesday, 2:30 P.M.

LABORATORY SECTION AND THE CONFERENCE OF DIRECTORS OF STATE AND PROVINCIAL PUBLIC HEALTH LABORATORIES—(Cont.)

The Significance of Scarlatinal Arthritis. Edward A. Mortimer, Jr., M.D.

The Effect of Penicillin on Rheumatic Fever. Louis Rakita, M.D.

Studies on Varicella and Herpes Zoster in Tissue Culture. Eli Gold, M.D.

Problems Concerning Immunization Against Poliomyelitis. Frederick C. Robbins, M.D.; Martha J. Lipson, M.D.; David H. Carver, M.D.; and Morton G. Eleef, M.D.

NATIONAL ASSOCIATION OF SANITARIANS' REGIONAL CONFERENCE AND THE OHIO ASSOCIATION OF PUBLIC HEALTH SANITARIANS

First Session—Club Room A, Public Auditorium

Presiding: Robert E. Mytinger, M.P.H., and Jay N. Cross.

UP-DATING SOME OLD PROBLEMS

Aerosol Contamination by Drinking Fountains. A panel report of recent studies of health department programs and the latest research findings. (Speaker to be announced.)

Hotels, Motels, and Tourist Homes. Is the Traveling Public Protected? (Speaker to be announced.)

Sanitary Control of Private (Home) Swimming Pools. (Speaker to be announced.)

The Sanitarian and Urban Redevelopment Programs. (Speaker to be announced.)

NATIONAL CITIZENS COMMITTEE FOR THE WORLD HEALTH ORGANIZATION

Afternoon Session—Grand Ballroom, Cleveland Hotel

Presiding: Ernest L. Stebbins, M.D.

Keynote Address: Leroy E. Burney, M.D.

Forum Discussion: Panel Experts and the Audience.

On the following questions and others which may be asked by the audience:

1. **Where Do We Get the "Most Mileage" for the United States' Dollar in International Health Work?**

(Cont.)

Wednesday, 2:30 P.M.

NATIONAL CITIZENS COMMITTEE FOR THE WORLD HEALTH ORGANIZATION—(Cont.)

2. **Is the United States "Dragging Its Feet" in Encouraging Needed Growth of the World Health Organization's Budget and Program?**
3. **Is the USSR a Member of the World Health Organization? What Is Public Health Now Like in the Soviet Union?**
4. **Are Health and Safety Factors in Radiation and Atomic Energy Utilization Being Recognized as World Health Problems, and Is Responsibility Being Placed on WHO?**
5. **What Are WHO's Responsibilities in Connection with "Oriental Flu" and Similar Outbreaks? Are They Adequate?**

Other questions from the audience.

Participants:

Frank G. Boudreau, M.D.
Leroy E. Burney, M.D.
Homer N. Calver.
Ruth E. Grout, Ph.D.
H. van Zile Hyde, M.D.
Thomas Parran, M.D.
Malcolm H. Merrill, M.D.
James E. Perkins, M.D.

Everyone Invited

PUBLIC HEALTH CANCER ASSOCIATION OF AMERICA

First Session—Little Theatre, Public Auditorium

CITY AND RURAL DIFFERENCES IN CANCER RISK

Panel Discussion

Moderator: Thomas F. Mancuso, M.D.

Participants:

Sidney J. Cutler.
John E. Dunn, Jr., M.D.
William M. Haenszel.
Morton L. Levin, M.D.
Mary Ellen Patno, Ph.D.

Wednesday, 2:30 P.M.

PUBLIC HEALTH EDUCATION SECTION

Second Session—Club Room B, Public Auditorium

Presiding: Ralph H. Boatman, Jr., M.D.

Consistencies in the Preparation and Work of Public Health Educators. Robert A. Bowman, M.P.H.

Health Education in Senior Citizens' Programs. (Speaker to be announced.)

Business Meeting.

Report of Ad Hoc Committees.

Wednesday, 5:30 P.M.

* COUNCIL OF CONSULTANTS OF THE NATIONAL SANITATION FOUNDATION

Social Hour, Followed by Dinner at 6:30 P.M., Parlor 34, Cleveland Hotel

* DENTAL HEALTH SECTION

Social Hour, 5:30–7:00 P.M., Pine Room, Statler Hotel

* FOOD AND NUTRITION SECTION

Social Hour, 5:30–7:00 P.M., Parlors F, G, and H, Statler Hotel

* HARVARD PUBLIC HEALTH ALUMNI ASSOCIATION

Social Hour, Followed by Dinner at 6:30 P.M., Whitehall Room, Cleveland Hotel

* MATERNAL AND CHILD HEALTH SECTION

Social Hour, 5:30–7:00 P.M., Rose Room, Cleveland Hotel

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* Tickets will be on sale at the registration desk.

Wednesday, 5:30 P.M.

* SCHOOL HEALTH SECTION

Social Hour, 5:30–7:00 P.M., Club Room 345, Statler Hotel

COMMEMORATING THE FIFTEENTH ANNIVERSARY OF THE SECTION

* UNIVERSITY OF MINNESOTA

Social Hour, Followed by Dinner at 6:30 P.M., Ohio Room, Statler Hotel

Wednesday, 6:30 P.M.

* AMERICAN SCHOOL HEALTH ASSOCIATION

Annual Banquet and Evening Session—Parlors A and B, Hollenden Hotel

Presiding: Fred V. Hein, Ph.D., President.

Health in Education. Mark C. Schinnerer, Ph.D.

Presentation of the William A. Howe Award to J. A. Myers, M.D. Charles C. Wilson, M.D.

Response by Dr. Myers.

Recognition of Past Presidents and Former Recipients of the Howe Award.

Installation of Officers for 1958.

Reception in Headquarters Parlor.

* CONFERENCE OF PUBLIC HEALTH VETERINARIANS

Dinner and Evening Session—Assembly Room A, Cleveland Hotel

Presiding: W. M. Decker, D.V.M.

The Public Health Veterinarian's New Role in Preventive Comparative Medicine: Cancer, Heart and Chronic Degenerative Diseases. James H. Steele, D.V.M.

Session Open to All Delegates

* UNIVERSITY OF PITTSBURGH ALUMNI

Dinner and Evening Session—Parlor C, Statler Hotel

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* Tickets will be on sale at the registration desk.

Wednesday, 8:00 P.M.

AMERICAN COLLEGE OF PREVENTIVE MEDICINE

First Session—Euclid Ballroom, Statler Hotel

AMERICAN SOCIETY OF PROFESSIONAL BIOLOGISTS, INC.

First Session—Parlor B, Statler Hotel

ASSOCIATION OF BUSINESS MANAGEMENT IN PUBLIC HEALTH

Second Session—Club Room 345, Statler Hotel

Presiding: Earl O. Wright, President.

Business Session.

MEDICAL CARE SECTION

First Session—Empire Room, Cleveland Hotel

Presiding: Isidore S. Falk, Ph.D.

THE COMMITTEE ON COSTS OF MEDICAL CARE—25 YEARS OF PROGRESS

Panel Discussion

Discussants:

Margaret C. Klem.
Alden B. Mills.
Louis S. Reed, Ph.D.
C. Rufus Rorem, Ph.D.
Nathan Sinai, Dr.P.H.

Wednesday, 8:30 P.M.

NATIONAL HEALTH COUNCIL

First Session—Ballroom, Cleveland Hotel

The Public Interest in the Public Health:

Today's Interest Shapes Tomorrow's Progress—Why, How, and In What Directions? (Speaker to be announced.)

Thursday, 8:00 A.M.

* COMMISSIONED OFFICERS ASSOCIATION OF THE U. S. PUBLIC HEALTH SERVICE

Breakfast Session—Empire Room, Cleveland Hotel

* LABORATORY SECTION

Breakfast and Morning Session—Rose Room, Assembly Room A, Parlor 34, and Parlors 32 and 30, Cleveland Hotel

Rose Room — **New Procedures in Syphilis Serology.**

Chairman: Sidney Olansky, M.D.

Participants:
W. E. Deacon, Ph.D.
Warfield Garson, M.D.
J. Portnoy, Ph.D.
Daniel Widelock, Ph.D.

Assembly Room A — **Methods for the Examination of Milk and Dairy Products.**

Chairman: Luther A. Black, Ph.D.

Participants:
Walter L. Mallmann, Ph.D.
Archie H. Robertson, Ph.D.
(Others to be announced.)

Parlor 34 — **Virological and Diagnostic Services in Public Health Laboratories.**

Chairman: Howard L. Bodily, Ph.D.

Participants: (To be announced.)

Parlors 32 and 30 — **Services and Research in General Microbiology.**

Chairman: Morris F. Shaffer, D.Phil.

Participants: (To be announced.)

(Other subjects and panels to be announced.)

* YALE UNIVERSITY ALUMNI

Breakfast Session—Ohio Room, Statler Hotel

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* Tickets will be on sale at the registration desk.

Thursday, 9:45 A.M.

AMERICAN COLLEGE OF PREVENTIVE MEDICINE

Second Session—Ballroom, Public Auditorium

Presiding: Leroy E. Burney, M.D.

Panel discussion on Asian influenza, including epidemiology, vaccine production and utilization, control measures, and laboratory services.

AMERICAN SCHOOL HEALTH ASSOCIATION AND THE AMERICAN HEART ASSOCIATION

Joint Session—Music Hall, Public Auditorium

Presiding: Ruth H. Weaver, M.D.

THE CARDIAC SCHOOL CHILD
A Symposium

The Cardiologist's View of the Cardiac Child. Carl Marienfeld, M.D.

The School Physician's View of the Cardiac Child. James P. Cozzens, M.D.

The Educator's View of the Cardiac Child. Morris Hamburg, Ed.D.

ASSOCIATION OF BUSINESS MANAGEMENT IN PUBLIC HEALTH

Third Session—Club Room B, Public Auditorium

Presiding: Lester J. Rosner.

Electronic Data Processing: Implications for Public Health Administration. John Diebold and Joseph F. Daly.

ASSOCIATION OF RESERVE OFFICERS OF THE U. S. PUBLIC HEALTH SERVICE

First Session—Directors' Room, Cleveland Hotel

ASSOCIATION OF STATE AND TERRITORIAL NUTRITION DIRECTORS

Third Session—Parlor 31, Cleveland Hotel

Thursday, 9:45 A.M.

CONFERENCE OF MUNICIPAL NURSE DIRECTORS

First Session—Parlor E, Statler Hotel

CONFERENCE OF PUBLIC HEALTH VETERINARIANS

Second Session—Club Room A, Public Auditorium

Presiding: Ernest S. Tierkel, V.M.D.

FEDERAL POULTRY INSPECTION LEGISLATION

Panel Discussion

Moderator: Oscar Sussman, D.V.M.

Participants:

Joe W. Atkinson, D.V.M.
Max Hibbard, D.V.M.
E. R. Price, D.V.M.

Business Session. (For conference members only.)

Installation of New Officers.

DENTAL HEALTH SECTION

Third Session—Terminal Room, Cleveland Hotel

Presiding: Robert A. Downs, D.D.S., Chairman.

NEW TECHNICAL DEVELOPMENTS IN FLUORIDATION

Criteria to Consider When Supplementing Fluoride-Bearing Water. David F. Striffler, D.D.S.

Experience in Maintaining Constant Fluoride Concentrations. Grace C. Scholz; Floyd B. Taylor, M.P.H.; and W. L. Harris.

Possibilities for Fluoridating Individual Water Supplies. Franz J. Maier.

ENGINEERING AND SANITATION SECTION AND CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS

Joint Session—Pine Room, Statler Hotel

Ground Water Recharge and Lagoon Sewage Disposal. The Upjohn Company, Kalamazoo, Mich. (Speaker to be announced.)

FINANCING WATER AND SEWAGE

Panel Discussion

Participants:

Robert R. Harris.
Ray E. Lawrence.
Roger Moehlman.
Arthur Robinson.

Thursday, 9:45 A.M.

ENGINEERING AND SANITATION, EPIDEMIOLOGY, AND MATERNAL AND CHILD HEALTH SECTIONS

Joint Session—South Hall Room A, Public Auditorium

Presiding: Wendell R. Ames, M.D.

STAPHYLOCOCCAL INFECTIONS IN THE HOSPITAL AND COMMUNITY—EPIDEMIOLOGIC ASPECTS

Panel Discussion

Moderator: Walsh McDermott, M.D.

The Hospital Environment and Staphylococcal Disease.* Reimert T. Ravenholt, M.D., and Otto H. Ravenholt.

Observations Relative to the Nature and Control of Epidemic Staphylococcal Disease. Frederick H. Wentworth, M.D.; Adah L. Miller, R.N.; and Berttina B. Wentworth.

Control of an Outbreak of Staphylococcal Infections Among Mothers and Infants in a Suburban Hospital. F. Robert Fekety, M.D.; Leon Buchbinder, Ph.D.; Renee Zindwer, M.D.; E. L. Shaffer, Ph.D.; Sidney Goldberg; H. Preston Price, M.D.; Louis A. Pyle, M.D.; Carl E. Weigele, M.D.; and Richard J. Russo, M.S.P.H.

Infections Revealed by Public Health Nursing Follow-Up Among a Group of Full-Term Babies and Their Mothers Discharged "Well" from a Maternity Service. Gertrud Weiss, M.D., and Lula O. Lubchenco, M.D.

Evaluation of the Phone Survey in an Outbreak of Staphylococcal Infections in a Newborn Nursery. Walter A. Murray, Jr., M.D.; Gerald E. McDaniel, M.D.; and May Reed, R.N.

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* Sponsored by the Committee on Air Hygiene, Engineering and Sanitation Section.

FOOD AND NUTRITION AND MATERNAL AND CHILD HEALTH SECTIONS

Joint Session—South Hall Room C, Public Auditorium

Presiding: Robert E. Shank, M.D.

MANAGEMENT OF OBESITY DURING ADOLESCENCE AND PREGNANCY

Thursday, 9:45 A.M.

OCCUPATIONAL HEALTH SECTION, AMERICAN INDUSTRIAL HYGIENE ASSOCIATION, AND THE INDUSTRIAL MEDICAL ASSOCIATION

Joint Session—Little Theatre, Public Auditorium

Presiding: Robert H. Flinn, M.D.

PROBLEMS RESULTING FROM THE USE OF HABITUATING DRUGS IN INDUSTRY

A Symposium

Pharmacology of Habituating Drugs. Havelock F. Fraser, M.D.

Effects of Analeptic and Depressant Drugs Upon Psychological Behavior. G. T. Hauty, Ph.D., and Lt. Colonel Robert A. Payne, USAF (MSC).

The Problem Within Industry. R. G. Bell, M.D.

PUBLIC HEALTH CANCER ASSOCIATION OF AMERICA

Second Session—South Hall Room A, Public Auditorium

Presiding: John R. Heller, Jr., M.D.

Business Session and Award for Distinguished Service in Cancer Control.

NEWER CHEMICALS TO COMBAT CANCER

A National Program for the Development and Testing of Chemotherapeutic Agents for Effectiveness Against Cancer. Kenneth M. Endicott, M.D.

A Clinical Trial to Test Effectiveness of Selected Chemotherapeutic Agents Administered in Combination with Surgery. George E. Moore, M.D.

STATISTICS SECTION

Third Session—Club Room C, Public Auditorium

Presiding: Bernard G. Greenberg, Ph.D., Chairman.

Hospital Records, Statistics, and the Practicing Physician. Robert G. Hoffman, Ph.D.

(Title to be announced.) Clifford A. Bachrach, M.D.

Discussants:

Marta Fraenkel, M.D.
(To be announced.)

Thursday, 12:30 P.M.

* AMERICAN ASSOCIATION OF PUBLIC HEALTH PHYSICIANS

Luncheon Session—Assembly Room B, Cleveland Hotel

* CONFERENCE OF STATE SANITARY ENGINEERS

Luncheon Session—Parlor C, Statler Hotel

* DELTA OMEGA

Luncheon Session—Rose Room, Cleveland Hotel

* INTERNATIONAL HEALTH ALUMNI

Sponsored by the Division of International Health, U. S. Public Health Service

Luncheon Session—Ohio Room, Statler Hotel

Presiding: Leroy E. Burney, M.D.

Around the World with Eighty Nurses. Virginia Arnold, R.N.

While this luncheon is primarily for making and renewing acquaintances among persons who have worked abroad, all persons interested in health and progress abroad are cordially invited.

* MEDICAL CARE SECTION

Luncheon Session—Empire Room, Cleveland Hotel

Presiding: Milton I. Roemer, M.D., Chairman.

* OCCUPATIONAL HEALTH SECTION

Luncheon Session—Pine Room, Statler Hotel

(Speaker to be announced.)

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* Tickets will be on sale at the registration desk.

Thursday, 12:30 P.M.

* PUBLIC HEALTH EDUCATION SECTION

Luncheon Session—Whitehall Room, Cleveland Hotel

Presiding: Robert O. Yoho, Chairman.

The Future of Health Education. William P. Shepard, M.D.

(Others to be announced.)

* UNIVERSITY OF CALIFORNIA PUBLIC HEALTH ALUMNI ASSOCIATION

Luncheon Session—Club Room 345, Statler Hotel

Thursday, 2:30 P.M.

DENTAL HEALTH, FOOD AND NUTRITION, HEALTH OFFICERS, MATERNAL AND CHILD HEALTH, MENTAL HEALTH, PUBLIC HEALTH EDUCATION, AND PUBLIC HEALTH NURSING SECTIONS, AND THE AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Music Hall, Public Auditorium

Presiding: Robert O. Yoho.

ATTITUDES AND REACTIONS OF THE PUBLIC TO HEALTH PROGRAMS

Panel Discussion

Moderator: John D. Porterfield, M.D.

Reports of Studies:

California. Malcolm H. Merrill, M.D.

The National Foundation for Infantile Paralysis. Melvin A. Glasser.

Behavioral Sciences Panel:

Stanley H. King, Ph.D.
Earl Lomon Koos, Ph.D.
Richard W. Wallen, Ph.D.

Public Health Panel:

Betty W. Bond, Ph.D.
Viron L. Diefenbach, D.D.S.
George James, M.D.
(Others to be announced.)

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* Tickets will be on sale at the registration desk.

Thursday, 2:30 P.M.

ENGINEERING AND SANITATION AND MENTAL HEALTH SECTIONS, THE CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS, AND THE CONFERENCE OF STATE SANITARY ENGINEERS

Joint Session—Little Theatre, Public Auditorium

Presiding: Morton S. Hilbert, C.E.

ENVIRONMENTAL RESOURCES AND COMPLEXES *

Future Metropolitan Area Environmental Complexes—A Symposium.

Environmental Health Aspects. Mark D. Hollis, C.E.
Mental Health Aspects. John D. Porterfield, M.D.
Planning and Programing Aspects. (Speaker to be announced.)

Integrated Water Resources Use and Development. Clarence J. Velz, C.E.

* Audience participation invited.

EPIDEMIOLOGY SECTION

Second Session—South Hall Room B, Public Auditorium

Presiding: Wendell R. Ames, M.D., Chairman.

The Decline of Rheumatic Fever. Recurrence Rates of Rheumatic Fever Among 782 Children for Twenty-One Consecutive Calendar Years (1936–1956). May G. Wilson, M.D.; Wan Ngo Lim, M.D.; and Ann Birch, M.D.

Widespread Salmonella Reading Infection of Undetermined Origin. R. H. Drachman, M.D.; Norman J. Petersen; and F. J. Payne, M.D.

Should the Premarital Blood Test Be Compulsory? Charlotte Silverman, M.D., and A. W. Hedrich, Sc.D.

The Development of Tuberculosis in a Controlled Institutional Environment. Abraham Gelperin, M.D., and Julius Manber, M.D.

LABORATORY SECTION

Fourth Session—South Hall Room C, Public Auditorium

Direct Recognition and Differentiation of Pathogenic Fungi. James B. Gray.

Combined Protective Action of Human Gamma-Globulin and Antibiotics When Administered Simultaneously in Experimental Staphylococcal Infection. Sorin Sonea, M.D.; A. G. Borduas, D.Sc.; and Armand Frappier, M.D.

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Thursday, 2:30 P.M.

LABORATORY SECTION—(Cont.)

Communicable Disease and the Public Health. Robert J. Anderson, M.D.

The Delayed Recovery of Streptococci from Throat Swabs. Nell F. Hollinger, Ph.D., and Lois H. Lindberg.

The Serofloeculation Reaction as a Laboratory Aid in the Detection of Invasive Cancers. H. S. Penn.

MEDICAL CARE SECTION

Second Session—Club Room B, Public Auditorium

Presiding: Milton I. Roemer, M.D., Chairman.

MEDICAL CARE IN OTHER COUNTRIES

Henry Ernest Sigerist Memorial Session

Medical Care in Europe. Karl Evang, M.D.

Medical Care in Latin America. Alfredo Leonardo Bravo, M.D.

Medical Care in Asia. (Speaker to be announced.)

OCCUPATIONAL HEALTH SECTION, AMERICAN INDUSTRIAL HYGIENE ASSOCIATION, AND THE INDUSTRIAL MEDICAL ASSOCIATION

Joint Session—Ballroom, Public Auditorium

STATUS OF THE PNEUMOCONIOSES

A Symposium

Moderator: Frank Princi, M.D.

Environmental Factors. Helmuth H. Schrenk, Ph.D.

Roentgenologic Manifestations. Eugene P. Pendergrass, M.D.

Pulmonary Physiology. George W. Wright, M.D.

Pathology. Arthur J. Vorwald, M.D.

The Importance of Bronchitis and Emphysema as Cause of Respiratory Disability and Mortality, with Special Reference to Dust Exposure. Charles M. Fletcher, F.R.C.P.

Thursday, 2:30 P.M.

SCHOOL HEALTH SECTION

Second Session—Club Room A, Public Auditorium

Presiding: Elena M. Sliepcevich, D.P.E.

Five-Minute Reports of Section Committees on:

Research. Wesley M. Staton, Ed.D., Chairman.
Rural School Health. Jennelle V. Moorhead, Chairman.
Juvenile Delinquency. Carl L. Anderson, Dr.P.H., Chairman.
Evaluation. John H. Shaw, Ed.D., Chairman.
Editorial. Patricia J. Hill, M.P.H., Chairman.

"HEALTHFUL SCHOOL LIVING"—A JOINT COMMITTEE PUBLICATION OF THE AMA AND NEA

Panel Discussion

Moderator: Charles C. Wilson, M.D.

Participants:

School Physician. (Speaker to be announced.)
School Administrator. (Speaker to be announced.)
Nurse. (Speaker to be announced.)
Teacher Educator. Wesley P. Cushman, D.Ed.

Report of a Study.

Implementation of Task Force Report—Discussion.

STATISTICS SECTION AND THE AMERICAN ASSOCIATION OF REGISTRATION EXECUTIVES

Joint Session—South Hall Room A, Public Auditorium

Presiding: William H. Veigel.

STATISTICAL STUDIES OF CERTAIN HEALTH PROBLEMS

Statistical Problems in Perinatal Mortality—North Carolina Study. Henry B. Wells.

Comparison of Prematurity in a General Population and in a Comprehensive Medical Care Plan. Sam Shapiro and Louis Weiner.

Epidemiologic Studies of Cancer in Ohio. Thomas F. Mancuso, M.D., and Elizabeth J. Coulter, Ph.D.

Thursday, 5:30 P.M.

* LABORATORY SECTION

Social Hour, 5:30–7:00 P.M., Empire Room, Cleveland Hotel

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* Tickets will be on sale at the registration desk.

Thursday, 5:30 P.M.

* UNIVERSITY OF NORTH CAROLINA SCHOOL OF PUBLIC HEALTH ALUMNI ASSOCIATION

Social Hour, 5:30–7:00 P.M., Assembly Room A, Cleveland Hotel

Thursday, 6:30 P.M.

* SOCIAL WORKERS IN HEALTH AND WELFARE PROGRAMS

Dinner Session—Rose Room, Cleveland Hotel

SOCIAL WORK PARTICIPATION IN RESEARCH IN PUBLIC HEALTH AND MEDICAL CARE ADMINISTRATION

Panel Discussion

Moderator: Roscoe P. Kandle, M.D.

Thursday, 8:30 P.M.

SECOND GENERAL SESSION

Music Hall, Public Auditorium

Presiding: John W. Knutson, D.D.S., President, American Public Health Association.

Presentation of the Albert Lasker Awards of the American Public Health Association for 1957.

Announcement of New Officers, Resolutions.

Dancing (Dress Informal) Will Follow in the Grand Ballroom, Statler Hotel.

All Registered Delegates and Exhibitors Are Invited

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* Tickets will be on sale at the registration desk.

Friday, 9:45 A.M.

DENTAL HEALTH, FOOD AND NUTRITION, HEALTH OFFICERS, PUBLIC HEALTH EDUCATION, AND PUBLIC HEALTH NURSING SECTIONS

Joint Session—Little Theatre, Public Auditorium

Presiding: Robert N. Barr, M.D.

INTRA-STAFF COMMUNICATIONS

Panel Discussion

Participants:

Chester S. Bowers, M.P.H.
Mildred Mouw, R.N.
Alice K. Smith, R.N.
John W. Stone, D.D.S.
John J. Wright, M.D.

ENGINEERING AND SANITATION SECTION, THE CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS, THE CONFERENCE OF STATE SANITARY ENGINEERS, AND THE INTER-AMERICAN ASSOCIATION OF SANITARY ENGINEERING (U.S.A. SECTION)

Joint Session—South Hall Room C, Public Auditorium

Presiding: J. A. Frank.

INTERNATIONAL ENVIRONMENTAL HEALTH

A Novel Approach to Environmental Sanitation on a National Level. Miguel E. Bustamante, M.D.

Recognizing Myths, Superstitions, Beliefs, and Customs in Sanitation Programs. (Speaker to be announced.)

Arthropod-Borne Encephalitis in the U.S.A. and Abroad. Alan W. Donaldson, Sc.D.

Foreign Policy Implication of U. S. Technical Assistance in Environmental Health. John J. Hanlon, M.D.

Progress Toward Malaria Eradication in the Americas with Special Reference to Mexico. Donald J. Pletsch, Ph.D.

Friday, 9:45 A.M.

EPIDEMIOLOGY, MENTAL HEALTH, AND STATISTICS SECTIONS

Joint Session—South Hall Room A, Public Auditorium

Presiding: Paul V. Lemkau, M.D.

COMMUNITY STUDIES ON MENTAL DISORDERS

Population Trends of Public Mental Hospitals. Morton Kramer, D.Sc., and Earl S. Pollack.

Some Variations in the Prevalence of Severe Mental Disability Among Aged Persons. Ernest M. Gruenberg, M.D.

MATERNAL AND CHILD HEALTH SECTION

Third Session—South Hall Room B, Public Auditorium

Presiding: Martha M. Eliot, M.D.

Maternal and Child Health in the Developing Countries—Problems and Opportunities. Jessie M. Bierman, M.D.

Problems of the Maternal and Child Health Clinic in India. Derrick B. Jelliffe, M.D.

Programs for Mothers and Children in the Indian Service. John C. Cobb, M.D.

The Mother in Labor—Hospital or Home? Hugh Paul, M.D.

Business Session.

MEDICAL CARE SECTION

Third Session—Club Room B, Public Auditorium

Presiding: Lucille M. Smith.

The Medicare Program. Major General Paul I. Robinson.

Home Medical Care Programs and the Community. Peter Rogatz, M.D., and Guido M. Crocetti.

Comprehensive Insurance and Hospital Utilization. Paul M. Densen, D.Sc.

Friday, 9:45 A.M.

SCHOOL HEALTH SECTION

Third Session—Parlors A, D, F, H, L, and M, Statler Hotel

Section Committees—Open Discussion:

Parlor A
Research. Wesley M. Staton, Ed.D., Chairman.

Parlor D
Rural School Health. Jennelle V. Moorhead, Chairman.

Parlor L
Juvenile Delinquency. Carl L. Anderson, Dr.P.H., Chairman.

Parlor F
Evaluation. John H. Shaw, Ed.D., Chairman.

Parlor H
Editorial. Patricia J. Hill, M.P.H., Chairman.

Parlor M
Hearing Conservation. C. Adele Brown, M.D., Chairman.

Friday, 12:30 P.M.

MEETING OF ALL SECTION COUNCILS WITH THE EDITORIAL BOARD

Luncheon Session—Pine Room, Statler Hotel

Past and Present Section Secretaries Are Invited

Friday, 2:30 P.M.

ASSOCIATION SYMPOSIUM

Part II—Music Hall, Public Auditorium

Part I of the Symposium will be presented on Monday morning in the form of a hearing to receive testimony from representative public health workers on program changes and developments in community health services to meet current and future needs.

Part II will also take the form of a hearing, focused upon the activities of the APHA itself. A panel from the Governing Council of the Association will respond to a series of questions propounded in advance, with appropriate anonymity, by public health workers. This session will close with a summary of the Symposium entitled "Priorities for 1958."

CLEVELAND LOCAL COMMITTEE FOR THE ANNUAL MEETING

The Cleveland hosts for the November meeting are now involved in that complex of activity that accompanies every Annual Meeting, sometimes completely unsuspected by the delegates. The Local Committee recognizes the importance of the scientific program, but it knows also that what the delegates do for relaxation between sessions is important as well.

Heading Local Committee responsibility for these pleasant matters is Dr. J. Glen Smith, health commissioner of Cleveland, assisted by co-chairmen J. Dean Halliday and Ralph E. Dwork, M.D. His advisers on the Entertainment and Scientific Trips Committee, for example, include E. B. Buchanan, Howard W. Green, and Mrs. Earl R. Hoover. Local Information and Hospitality will be dispensed under the guidance of James P. Cozzens, M.D., and Mildred McIntyre, R.N. Meeting Rooms will be supervised by William H. Hay and John Haytas. Professional Relationships will be maintained by Bruno Gebhard, M.D., and Joseph B. Stocklen, M.D., and last, but certainly not least, Finance will be the responsibility of J. Dean Halliday and E. B. Buchanan, with Loring L. Gelbach, treasurer. This able company, together with the honorary chairmen, Mayor Anthony J. Celebrezze, Governor C. William O'Neill, and M. LaVinia Warner, Ph.D., director, Department of Public Health and Welfare, augurs a most successful and stimulating convention and merits the anticipated appreciation of the delegates.

THE SCIENTIFIC AND TECHNICAL EXHIBITS

85th Annual Meeting

Cleveland, Ohio, Public Auditorium

November 11–14, 1957

SCIENTIFIC EXHIBITORS
and what is being exhibited

Academy of Dentistry for the Handicapped—oral conditions in the handicapped

Allegheny County Health Department—activities of the county health department

American Cancer Society, Philadelphia Division—evaluation of public and professional cancer education programs

American Dietetic Association—achieve your proper weight

American Heart Association and U. S. Public Health Service—the sodium restricted patient

American Hospital Association—working for better patient care

American Medical Association—health appraisal of the school child

American Nurses' Association—

American Occupational Therapy Association—occupational therapy activities

American Osteopathic Association—

health extension clinics in Kirksville, Mo.

American Physical Therapy Association —a service in the community

American Red Cross—Nurses volunteer

Baltimore City Health Department—services for the expectant mother

Canadian Department of National Health and Welfare—

Colgate Palmolive Company—analytical recorder of tooth brushing habits

Common Cold Foundation, Inc.—research progress

Department of Health, Education, and Welfare—

Children's Bureau—

Communicable Disease Center, Atlanta—Psittacosis-ornithosis; Epidemic Intelligence Service

Division of Dental Public Health—use of fluorspar in public water supplies

Division of General Health Services —The migrant worker; Public Health Service traineeship program

Division of Indian Health—health careers among the American Indians

Division of International Health and the International Cooperation Administration—the malaria challenge

Division of Personnel—activities of the Public Health Service

Robert A. Taft Sanitary Engineering Center, Cincinnati—research, technical assistance, and training activities

Equitable Life Assurance Society of the United States—health education materials

Illinois Department of Public Health—maternal welfare traveling exhibits

International Union for Health Education of the Public—

Mental Health Materials Center—publications of the APHA Committee on Child Health

Metropolitan Life Insurance Company—mental health

Mount Sinai Hospital Edward Reiter Cleft Palate Clinic—the team approach in care of the cleft palate patient

Muscular Dystrophy Association of America, Inc. — manifestations of muscular dystrophy

National Association of Social Workers —social work's role in public health

National Foundation for Infantile Paralysis — ECHO and Coxsackie viruses; vaccination education program

National Health Council—

National League for Nursing—public health nursing

National Sanitation Foundation—Standard No. 4 "Commercial Cooking and Warming Equipment"

National Society for Crippled Children and Adults, Inc.—rehabilitation

National Society for the Prevention of Blindness—glaucoma detection

National Tuberculosis Association—tuberculin testing in modern practice

New York State Health Department—cancer control: lung and breast

Ohio Department of Health—mobile hearing unit

Pennsylvania Health Department — chronic illness

Philadelphia Public Health Department —mediastinal abnormalities revealed by photofluorogram

Planned Parenthood Federation of America—services of Planned Parenthood centers

Roswell Park Memorial Institute—cancer research hospital

Sloan-Kettering Institute—the epidemiologist looks at cancer

Smith, Kline and French Laboratories—family physician-everyday psychiatrist

Stritch School of Medicine, Loyola University—diseases of the nails and therapeutic methods

Tobacco Industry Research Committee —scientific research program

U. S. Air Force Medical Service—hearing conservation

U. S. Army Medical Service—your Army health nurse; hearing conservation in Army installations; occupational vision program; radiation protection surveys

U. S. Navy—preventive medicine unit activities

Vocational Counseling and Placement Service, APHA, and New York State Employment Service

World Health Organization—malaria

TECHNICAL EXHIBITORS
and what is being exhibited

Airkem, Inc.—odor counteractants

AMBCO, Inc.—auditory equipment

American Can Co.—nutrition literature

American Hospital Supply Corp.—products for the bacteriologic and diagnostic laboratory

American Medical Association—"Today's Health"

American Optical Co.—ophthalmic instruments

American Tobacco Co.—scientific research

Association Conventions Exhibits—combined book exhibit

Baby Development Clinic—cleansers and infant and maternal garments

The Baker Laboratories, Inc.—Baker's Modified Milk and Varamel for infant feeding

Baltimore Biological Laboratory, Inc., Division of Becton, Dickinson & Co.—bacteriologic media, biochemical apparatus

Becton, Dickinson & Co.—syringes, needles, blood donor sets, and laboratory products

Bellco Glass, Inc.—biologic glassware

Beltone Hearing Aid Co., Audiometer Division—Beltone Audiometers

The Best Foods, Inc.—all Best Foods products

The Blakiston Division, McGraw-Hill Book Co., Inc.—medical and reference books

Carnation Co.—products for infant feeding, cooking, and general diet

Case Laboratories, Inc.—bacteriologic culture media, diagnostic reagents, serum, multidisks for bacterial sensitivity testing

Cereal Institute, Inc.—health and nutrition educational materials

The Chemical Rubber Co.—labwasher with syringe racks

Chilean Iodine Educational Bureau, Inc.—Iodine in surgery, medicine, nutrition, and sanitation

Chrysler Corp.—safety education campaign with automobile safety features and accessories

The Coca-Cola Co.—"Refresh Yourself with Coca-Cola"

Continental Hospital Industries, Inc.—oxygen inhalator and resuscitator unit

The Cream of Wheat Corp.—baby-feeding leaflets, special diet folders and charts, and enriched and regular Cream of Wheat

Denoyer-Geppert Co.—human anatomy models and charts

Diaprene Co.—Diaprene chloride pharmaceuticals

The Dietene Co.—Dietene reducing supplement and Meritene whole protein supplement

Difco Laboratories—diagnostic reagent and culture media for public health and other microbiologic laboratories

Encyclopaedia Britannica — Encyclopaedia Britannica Senior, 24-volume set

Encyclopedia Americana—1957 edition of Encylclopedia Americana's Book of Knowledge

Everest & Jennings, Inc.—wheelchairs and walkers for the handicapped

Oscar Fisher Co., Inc.—photographic and x-ray processing equipment

Ford Division of Ford Motor Co.—Ford lifeguard design display

Galvanized Ware Manufacturers Council, Lawrence H. Selz Organization, Inc.—galvanized steel garbage cans for controlling rats and flies

Hanovia Chemical & Manufacturing Co.—germicidal equipment

Harold Supply Corp.—the steriphone system for processing needles and syringes

Hartz Mountain Products Corp.—Hartz Mountain pet foods

Hausted Manufacturing Co.—diagnostic and therapeutic equipment

Health Insurance Council—health insurance information

Heinicke Instruments Co.—laboratory glassware washers

The Hobart Manufacturing Co.—food-preparing and commercial dishwashing machines; food waste disposer

Hopkins Uniform Co.—new public health uniform dress

Human Factors Research Bureau, Inc.—pamphlets, books, graphs, etc., pertaining to medical research

Hyland Laboratories—diagnostic reagents and culture media; gamma globulin

John Hancock Mutual Life Insurance Co.—health education materials

Kimble Glass Co.—Kimble laboratory glassware

LaMotte Chemical Products Co.—food, water, and sewage testing equipment; syphilis serology antigens

Licensed Beverage Industries, Inc.—literature on alcoholism as a medical and public health problem

The Lorvic Corp.—Karidium tablets; Odara concentrate

Lourdes Instrument Corp.—centrifuges and homogenizer

MacGregor Instrument Co.—needles, syringes, and other surgical specialties

The Macmillan Co.—books for the public health profession

Maico Co., Inc.—audiometers, hearing aids, group training equipment

Medical Case History Bureau—cancer registry system

Medical Coaches, Inc.—mobile medical coach and trailer clinics

Merck Sharp & Dohme, Division of Merck & Co., Inc.—pharmaceuticals, virus vaccines

Millipore Filter Corp.—Millipore filter membranes and apparatus

The C. V. Mosby Co.—health publications

National Dairy Council—health and nutrition education materials

National Live Stock & Meat Board—nutrition education publications

Nu Vogue Creations—maternity comfort aids

Oval Wood Dish Corp.—Ritespoons and Riteforks, Riteshape tongue blades

Parke, Davis & Co.—pharmaceuticals, biologicals, and surgical dressings

S. B. Penick & Co.—sanitizers

Pepperidge Farm, Inc.—bread, rolls, and bakery products

Pepsi-Cola Co.—"Refreshing, Ice-Cold Pepsi-Cola"

Pet Milk Co.—evaporated milk and instant nonfat dry milk

Pitman-Moore Co.—Poliomyelitis vaccine and gamma globulin

Potlatch Forests, Inc.—Protecto paper toilet seat covers

Powers X-Ray Products, Inc.—Chest x-ray survey programs

The Procter & Gamble Co.—soaps, detergents, and toiletries

Public Health Committee of the Paper Cup & Container Institute—literature pertaining to sanitation in public eating and drinking establishments, food-handler training aids, Health Officers News Digest

Reed & Carnrick—pharmaceuticals and laboratory medical products

Ross Laboratories—Similac for infant feeding

W. B. Saunders Co.—text and reference books

Sealright Co., Inc.—sanitary plastic coated paper milk bottle closures and cartons

The Seven-Up Co.—Seven-Up venders, 7-Up merchandising devices

Sonotone Corp.—audiometers and hearing aids

Ivan Sorvall, Inc.—Sorvall laboratory instruments

E. R. Squibb & Sons—pharmaceuticals

M. A. Sterner Co., Inc.—life-saving program with equipment and demonstration

Sterwin Chemicals, Inc.—Roccal, sanitizing agent

Tampax, Inc.—educational material on menstrual health and Tampax

Travenol Laboratories, Inc.—Travenol coil kidney

Maltbie Laboratories Division, Wallace & Tiernan, Inc.—dermatologic agents

Wallace Laboratories — tranquilizing agent

Warner-Chilcott Laboratories—pharmaceuticals

Warner-Chilcott Laboratory Supply Division—diagnostic reagents

West Chemical Products, Inc.—tamed iodine detergent-germicides

Wilmot Castle Co.—sterilizers and examining lights

Wyeth Laboratories—antibiotics

NOMINATIONS FOR SECTION OFFICES

Following are lists of nominations for certain Sections that were submitted by the Section Nominating Committees in time for publication in the September Journal. All nominees are Fellows of the respective Sections as required in the Constitution and By-Laws of the Association. The terms of office are for one year unless otherwise stated.

The By-Laws provide that "if the name of any Fellow be transmitted to the Section Committee on Nominations over the signature of ten Fellows or members of the Section prior to the first meeting of the Section, the Section Committee on Nominations shall add the name of such Fellow to its own list of nominees." Fellows and members who wish to add names by petition should communicate with the Section Secretary whose name and address are also shown.

DENTAL HEALTH SECTION NOMINATIONS

Chairman:	Linwood G. Grace, D.D.S., Harrisburg, Pa.
Vice-Chairman:	David F. Striffler, D.D.S., Santa Fe, N. M.
Secretary:	Donald J. Galagan, D.D.S., Washington, D. C.
Member of Section Council, 5-year term:	Robert A. Downs, D.D.S., Denver, Colo.
Member of Association Nominating Committee for Elective Councilors:	Thomas L. Hagan, D.D.S., Washington, D. C.

(The present Section Secretary is Donald J. Galagan, D.D.S., Public Health Service, Washington 25, D. C.)

(Cont.)

NOMINATIONS FOR SECTION OFFICES—(Cont.)

ENGINEERING AND SANITATION SECTION NOMINATIONS

Chairman:	Mark D. Hollis, C.E., Washington, D. C.
Vice-Chairman:	Clarence I. Sterling, Jr., Boston, Mass.
Secretary:	William C. Gibson, M.P.H., Ann Arbor, Mich.
Member of Section Council, 5-year term:	Louva G. Lenert, Atlanta, Ga.
Member of Association Nominating Committee for Elective Councilors:	Morton S. Hilbert, C.E., Dearborn, Mich.
Member of Association Standing Committee on Eligibility, 2-year term:	Herbert J. Dunsmore, Pittsburgh, Pa.

(The present Section Secretary is William C. Gibson, M.P.H., University of Michigan School of Public Health, Ann Arbor, Mich.)

EPIDEMIOLOGY SECTION NOMINATIONS

Chairman:	Theodore A. Ingalls, M.D., Boston, Mass.
Vice-Chairman:	Clayton G. Loosli, M.D., Chicago, Ill.
Secretary:	Thomas D. Dublin, M.D., Bethesda, Md.
Secretary-Elect:	Arthur C. Hollister, Jr., M.D., Berkeley, Calif.
Member of Section Council, 5-year term:	Alexander D. Langmuir, M.D., Atlanta, Ga.
Member of Association Nominating Committee for Elective Councilors:	Ernest S. Tierkel, V.M.D., Atlanta, Ga.

(The present Section Secretary is Thomas D. Dublin, M.D., National Institutes of Health, Bethesda 14, Md.)

FOOD AND NUTRITION SECTION NOMINATIONS

Chairman:	Frederick C. Baselt, C.E., New York, N. Y. Harry E. Goresline, Ph.D., Chicago, Ill.
Vice-Chairman:	Horace L. Sipple, Ph.D., New York, N. Y. Helen E. Walsh, Berkeley, Calif.
Secretary:	Marjorie M. Morrison, Jacksonville, Fla. Dorothy M. Youland, Washington, D. C.
Member of Section Council, 5-year term:	Mary E. Aiken, Pittsburgh, Pa. Cecil G. Dunn, Ph.D., Cambridge, Mass.
Member of Association Nominating Committee for Elective Councilors:	Mary Reeves, M.P.H., Chicago, Ill. Frances N. Shoun, M.P.H., Nashville, Tenn.

(The present Section Secretary is Helen E. Walsh, 2151 Berkeley Way, Berkeley 4, Calif.)

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NOMINATIONS FOR SECTION OFFICES—(Cont.)

LABORATORY SECTION NOMINATIONS

Chairman:	Howard L. Bodily, Ph.D., Berkeley, Calif.
Vice-Chairman:	F. Wellington Gilcreas, Gainesville, Fla.
Secretary:	Albert V. Hardy, M.D., Jacksonville, Fla.
Secretary-Elect:	Erwin Neter, M.D., Buffalo, N. Y.
Member of Section Council, 5-year term:	Morris F. Shaffer, Ph.D., New Orleans, La.
Member of Association Nominating Committee for Elective Councilors:	Elaine L. Updyke, Sc.D., Chamblee, Ga.

(The present Section Secretary is Albert V. Hardy, M.D., P. O. Box 210, Jacksonville, Fla.)

MATERNAL AND CHILD HEALTH SECTION NOMINATIONS

Chairman:	Arthur Lesser, M.D., Washington, D. C. R. Gerald Rice, M.D., Harrisburg, Pa.
Vice-Chairman:	Herbert Kobes, M.D., Springfield, Ill. Edward Schlesinger, M.D., Albany, N. Y.
Secretary:	Helen M. Wallace, M.D., Minneapolis, Minn.
Member of Section Council, 5-year term:	Martha Clifford, M.D., Hartford, Conn. Hilla Sheriff, M.D., Columbia, S. C.
Member of Association Nominating Committee for Elective Councilors:	Helen W. Bellhouse, M.D., Atlanta, Ga. Edwin M. Gold, M.D., New York, N. Y.

(The present Section Secretary is Helen M. Wallace, M.D., University of Minnesota School of Public Health, Minneapolis, Minn.)

OCCUPATIONAL HEALTH SECTION NOMINATIONS

Chairman:	Herbert T. Walworth, Chicago, Ill.
Vice-Chairman:	Lewis J. Cralley, Ph.D., Cincinnati, Ohio
Secretary:	Mitchell R. Zavon, M.D., Cincinnati, Ohio
Member of Section Council, 5-year term:	Robert H. Flinn, M.D., Washington, D. C.
Member of Association Nominating Committee for Elective Councilors:	Heinrich Brieger, M.D., Philadelphia, Pa.
Member of Association Standing Committee on Eligibility, 2-year term:	Charles D. Yaffe, Cincinnati, Ohio

(The present Section Secretary is Lewis J. Cralley, Ph.D., 1014 Broadway, Cincinnati 2, Ohio)

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NOMINATIONS FOR SECTION OFFICES—(Cont.)

PUBLIC HEALTH NURSING SECTION NOMINATIONS

Chairman:	Madelyn N. Hall, R.N., Philadelphia, Pa. Julia D. Smith, R.N., Chapel Hill, N. C.
Vice-Chairman:	Wilda G. Camery, R.N., Pittsburgh, Pa. E. Alice Clark, R.N., Atlanta, Ga.
Secretary:	Agnes L. Fuller, R.N., New York, N. Y. Dorothy K. Whitney, R.N., Pittsburgh, Pa.
Member of Section Council, 5-year term:	Hazel H. Gibbs, R.N., Richmond, Va. Margaret L. Varley, R.N., Boston, Mass.
Member of Association Nominating Committee for Elective Councilors:	Alice K. deBenneville, R.N., Pittsburgh, Pa. Mary E. Parker, R.N., Albany, N. Y.
Member of Association Standing Committee on Eligibility, 2-year term:	Lalla M. Goggans, R.N., Charlottesville, Va. Ethel R. Jacobs, R.N., Indianapolis, Ind.

(The present Section Secretary is Agnes L. Fuller, R.N., Children's Bureau, 42 Broadway, New York, N. Y.)

SCHOOL HEALTH SECTION NOMINATIONS

Chairman:	Elena Sliepcevich, D.P.E., Columbus, Ohio
Vice-Chairman:	Sol S. Lifson, M.P.H., New York, N. Y.
Secretary:	Florence L. Fogle, R.N., Columbus, Ohio
Member of Section Council, 5-year term:	C. Adele Brown, M.D., Oswego, N. Y.
Member of Association Nominating Committee for Elective Councilors:	Dora A. Hicks, Ed.D.
Member of Association Standing Committee on Eligibility, 2-year term:	Marian Miller Hamburg, Ed.D., New York, N. Y.

(The present Section Secretary is Florence L. Fogle, R.N., 8 University School, Ohio State University, Columbus, Ohio)

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NOMINATIONS FOR SECTION OFFICES—(Cont.)

STATISTICS SECTION NOMINATIONS

Chairman:	Bernard G. Greenberg, Ph.D., Chapel Hill, N. C. Elizabeth Parkhurst, Albany, N. Y.
Vice-Chairman:	Mortimer Spiegelman, New York, N. Y. Howard West, M.P.H., Alexandria, Va.
Secretary:	Robert D. Grove, Ph.D., Arlington, Va.
Member of Section Council, 5-year term:	Albert E. Bailey, Ph.D., Harrisburg, Pa. Lillian R. Freedman, Washington, D. C. Henry G. Page, M.P.H., Ottawa, Ont., Canada Jacob Yerushalmy, Ph.D., Berkeley, Calif.
Member of Association Nominating Committee for Elective Councilors:	Paul M. Densen, D.Sc., New York, N. Y. Felix E. Moore, Ann Arbor, Mich.
Member of Association Standing Committee on Eligibility, 2-year term:	Isidore Altman, Ph.D., Pittsburgh, Pa. Marjorie T. Bellows, M.S.P.H., New York, N. Y.

(The present Section Secretary is Robert D. Grove, Ph.D., 2114 N. Powhatan St., Arlington, Va.)

Public Health Exchange Mission to Russia

A public health exchange mission between the United States and Russia has been arranged jointly by the Public Health Service and the State Department. The United States mission of five members headed by Thomas Parran, M.D., dean of the University of Pittsburgh Graduate School of Public Health, left in mid-August for a four-week tour of Russia. A reciprocal health mission from Russia will visit the United States in October.

The visits are providing opportunities for closer contacts between public health and medical leaders of the two nations and will facilitate the exchange of technical information in health fields. The American physicians are studying prevailing health conditions and practices in the USSR, visiting cities and villages in five of the 15 republics of the USSR in Europe and Asia. Their visit includes the Union Ministry of Health, city health departments, hospitals, dispensaries, industrial medical services, research institutes, and medical schools.

In addition to Dr. Parran, members of the mission are Otis L. Anderson, M.D., Assistant Surgeon General, Public Health Service; Malcolm Merrill, M.D., director, State Department of Public Health, Calif.; Leonid Snegeriff, M.D., associate professor, Department of Public Health Practice, Harvard School of Public Health; and Henry van Zile Hyde, M.D., Medical Director, Public Health Service.

85th ANNUAL MEETING

HOW TO MAKE HOTEL RESERVATIONS FOR THE CLEVELAND MEETING

A HOUSING BUREAU will be operated by the Cleveland Convention Bureau for the 85th Annual Meeting of the APHA in Cleveland, Ohio, November 11–15. Since all requests for rooms will be handled in chronological order, you are urged to send in your reservation as quickly as possible on the form below.

HOTELS HOLDING ROOMS FOR THE APHA AND RATES *

Hotel	Single	Double	Twin Beds
Auditorium Hotel, 1315 E. 6th St.	$4.75– 8.00	$ 7.50–10.00	$10.00–12.00
Carter Hotel, Prospect and E. 9th St.	5.50– 9.25	8.50–13.50	9.50–14.25
Cleveland Hotel, Public Square	6.50–11.00	9.00–14.00	10.50–20.00
Hollenden Hotel, 610 Superior Ave.	5.00– 9.00	8.00–12.00	9.00–14.00†
Manger Hotel, 1802 E. 13th St.	5.00– 9.00	7.00– 9.00	9.00–13.00
Olmsted Hotel, Superior and E. 9th St.	4.25– 9.00	7.00–11.00	8.50–11.00
Statler Hotel, Euclid and E. 12th St.	6.00–13.00	10.00–16.00	11.00–18.50

* Parlor Suites available in all these hotels. Rates on request.
† Studios $14.00–30.00.

HOTEL RESERVATION FORM

MAIL TO: Mrs. Louise D. Perkins, Director
Cleveland Housing Bureau, APHA
511 Terminal Tower
Cleveland 13, Ohio

..... 1957
(Date)

Please make the following reservation:

Hotel ..... First Choice
Hotel ..... Second Choice
Hotel ..... Third Choice

Single rooms are very scarce; please arrange for sharing if possible.

Arrival 1957
Departure 1957

.....Single room(s) for ..... person(s). Rate $..... to $..... per room

.....Double Bedroom(s) for ..... person(s). Rate $..... to $..... per room

.....Twin Bedroom(s) for ..... person(s). Rate $..... to $..... per room

The names and addresses of all persons who will occupy the room(s) requested must be listed. Please be sure to indicate arrival and departure dates.

....

....

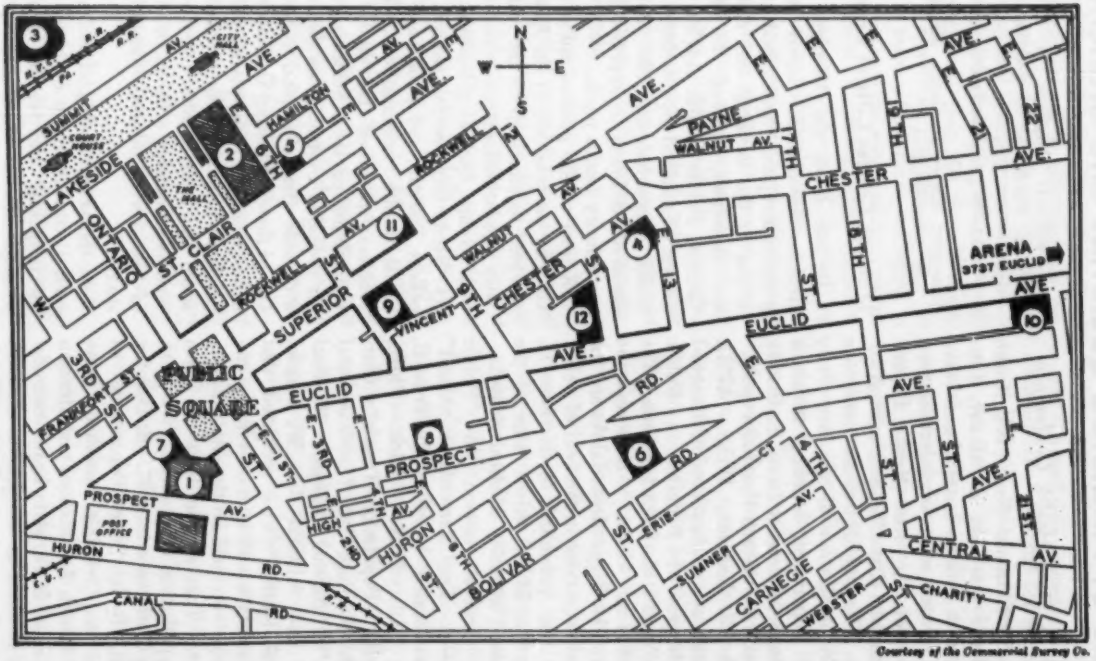
....

Name of Applicant.....

Street ..... City..... Zone.... State.....

NOTE: You will receive confirmation direct from the hotel.

MAP OF DOWNTOWN CLEVELAND WITH KEY TO PUBLIC AUDITORIUM AND HOTELS BELOW



Courtesy of the Commercial Survey Co.

2—Public Auditorium
4—Manger Hotel
5—Auditorium Hotel
6—Carter Hotel
7—Cleveland Hotel
9—Hollenden Hotel
11—Olmsted Hotel
12—Statler Hotel

News of Affiliated Societies and Branches

New York State Health Conference

The 53rd Annual New York Health Conference was held in Albany, June 24–27, with an attendance of more than 1,500. Seven other organizations met jointly with the State Health Department and the State Public Health Association. The highlight of the conference was the dedication of the new State Health Department building at which both Surgeon General Leroy E. Burney and Governor Averell Harriman spoke.

John W. Knutson, D.D.S., APHA President, at a general session discussed "A Merger of Patterns in Public Health" and at the PHA luncheon, "The Role of Your APHA." Here also the Hermann M. Biggs Memorial Award for meritorious service in the field of public health was presented to Herman G. Weiskotten, M.D., retired dean of the Syracuse University Medical School.

One general session on "Public Health—A Ten Year Look Ahead" was moderated by Ray E. Trussell, M.D., with Dudley Kirk, Ph.D., discussing "Population Trends"; Clarence I. Sterling, Jr., "Environmental Health"; Samuel Leigh, "Medical Care," and Admiral Bart W. Hogan, "Mental Health," who predicted that psychiatrists would take over the prominent role now held by the general practitioner. This session took the form of a hypothetical 63rd annual New York Health Conference in 1967. E. Dorothy Gordon, R.N., State Department of Health, and retiring president, State Public Health Association, and Herman E. Hilleboe, M.D., state health commissioner, presided at the general sessions.

New officers of the Public Health Association, all on the State Health Department staff, are:

President: Julius S. Prince, M.D., director, Jamestown District Office

President-Elect: Meredith H. Thompson, Dr.Eng., Bureau of Environmental Sanitation

Secretary: Mary C. Egan, public health nutritionist

Treasurer: Marion L. Henry, director, Business Administration.

Michigan Creates Citizens Council

In late 1956, the Michigan Public Health Association, based on the premise that public health lacks sufficient access to the thinking and counsel of the consumer, created a state-wide Citizens Public Health Advisory Committee. Endorsed by Michigan's state health commissioner, the committee declared its intent to appraise immediate priority health needs.

A total of 156 persons out of 160 invited by the president of the Association accepted membership on the committee. They represented a cross-section of statewide groups, including business, industry, labor, farm, social, church, school, college, veteran, and public and professional health organizations. The 32 problems proposed for study ranged from financing local health services to air pollution control, from the need for a chronic disease hospital to food fads. Out of these a Steering Committee chose seven proposals to be placed before the Advisory Committee for discussion and asked the State Health Department to send each member a background review of the seven subjects suggested for study.

At the later meeting of 114 persons, each discussion group evaluated one of the proposals, and reached a majority recommendation which was reported to the committee as a whole in an open Town Meeting.

The recommendation on state aid for local health departments was that the current $400,000 be increased by 50 per

cent. On licensure of nursing homes and homes for the aged it was recommended that funds be provided for three consultant nurses, a dietitian, an engineer, and a typist to carry out the inspection and licensing activities.

The group discussing long-term illness suggested that the State Department of Health be provided in this area with a team of workers including a physician, medical social worker, physical therapist, dietitian, health educator, a medical records analyst, as well as secretarial and clerical service.

For a three-year demonstration in prevention of relapse in mental illness another group recommended that six local health departments be provided with a consultant nurse to show what family consultation can do to prevent relapse of patients discharged from mental hospitals.

The group discussing tuberculosis recommended state aid to assist local health departments to give supervised care for tuberculous patients discharged from sanatoria. As to poliomyelitis, funds were recommended for the purchase of vaccine to immunize all children from ages one to 14, as well as 200,000 children in other age groups. The air pollution group recommended that air pollution control be made the responsibility of the State Department of Health by the Legislature.

A footnote to these recommendations is that they would add a cost equal to about 20 cents per capita to the budget of the State Health Department and call for some voluntary funds in addition.

Dr. Porterfield Challenges Wisconsin

The keynote speaker at the June 12, 13 meeting in Madison of the Wisconsin Public Health Association was John D. Porterfield, M.D., Assistant Surgeon General of the Public Health Service. His challenge, "Are We Meeting Present and Changing Public Health Needs?" was read by Paul Q. Peterson, M.D., chief of the Service's Chronic Disease Division.

Dr. Porterfield's answer to his own question was "no" and for such reasons as a lack of vision in the professions and the public of the role of public health services, too close adherence to preconceived formulas for the organization and operation of public health programs, too narrow a base of public representation in the planning and performance of public health services, and too much preoccupation with short-run economy in providing services rather than with the long-run economy of prevention. "To meet present and changing needs, we must have a renewal of vision. . . . Public health costs money. The changing needs of the present period cannot be met on the basis of old economic formulas. Some problems urgently require costly public health research in order to find new and less costly methods for their solution. Some problems can be attacked with means now within our reach—but these 'means' cost money, too. . . . If present and changing needs are to be met, public health services must be guarded against the niggardliness of narrow vision, of iron-clad formulas; and against its corollary, niggardly support by society. It is not enough to want the direction of public health to be forward. We must want it and work for it with intelligence, with patience, and with renewed faith in its place in society."

Walter D. Tiedeman, executive director of the National Sanitation Foundation's testing laboratory, carried the changing aspects theme further in his discussion of "Environmental Sanitation Relating to Fringe Area Problems."

Five workshops were held on as many subjects—Fringe Area Problems; Food Fads and Propaganda; Personnel and Budget Needs, Legislation, Public Support; Air and Water Pollution; and

Chronic Illness. In the discussion of the third subject it was reported that the State Medical Society, through action of its House of Delegates, is urging the development of county health departments in the state. Also that the state's Public Health Council is considering a committee to study the broad area of the state's public health laws and programs. In this workshop the need of local people was expressed for the assistance of professional skill in promotion to assist in developing county health programs and for state and/or federal aid for the initial years of a new program.

The following officers were reelected:

President: Margaret E. Hatfield, M.D., M.P.H., health officer, State Health District 2, Elkhorn

Vice-President: Charles K. Kincaid, M.D., health commissioner, Madison

Secretary-Treasurer: Paul Weis, assistant state registrar, State Department of Health, Madison.

Editor's Note: The Journal is indebted to the Wisconsin State Board of Health Newsletter, July 9, 1957, editor Allan Filek, M.D., M.P.H., for the detailed report on which this item is based.

Massachusetts Discusses New Areas

The Massachusetts Public Health Association, meeting at the Massachusetts Institute of Technology on May 2, confined its discussions to three subjects, each of them frequently mentioned as among the newer areas of health department responsibility.

Health Careers was the subject to which State Commissioner Samuel Kirkwood, M.D., and the Worcester health officer, Kenneth I. E. MacLeod, M.D., addressed themselves. The Association is one of three APHA state affiliates known to have a Health Careers Committee.

The significance of air pollution to the health of the people of Massachusetts was explored by Leslie Silverman, associate professor of industrial engineering, Harvard School of Public Health.

At the dinner meeting the new responsibilities of the health department in accident prevention were outlined by the Public Health Service's Accident Prevention Program Chief, James L. Goddard, M.D. Here also Professor Curtis M. Hilliard, a former winner of the annual Lemuel Shattuck Award, presented the 1957 award to Stanley H. Osborn, M.D., health commissioner of Connecticut "for long and illustrious service devoted to promoting the public health in the administrative field."

New officers elected are:

President: Nicholas J. Fiumara, M.D., director, Division of Venereal Diseases, State Department of Health

President-Elect: Franz Goldmann, M.D., associate professor of medical care, Harvard School of Public Health

Vice-President: Dean A. Clark, M.D., general director, Massachusetts General Hospital

Recording Secretary: John G. McCormick, health educator, Brookline Health Department

Treasurer: Ann M. Thomson, R.N., acting head, Section of Nursing, State Department of Health.

The new executive secretary, succeeding Dr. Muriel Bliss Wilbur, who resigned, is Mrs. Elizabeth K. Caso, nutritionist, Cambridge Department of Health.

Utah Takes Teamwork Seriously

The Utah Public Health Association met in Salt Lake City on May 16, 17. As reported by "Your Health," monthly bulletin of the State Health Department, "the one theme that ran like a silver thread through all the talks and discussions was the necessity for teamwork." There were two panel discussions—Working Together for Healthier Children and United Efforts for the Protection of Community Health. Also recurring as a minor theme was the question "Is the practice of public

health in tune with the times or do we have a 'do not disturb' sign hanging on our front door?" (Utah has one city and one county full-time health department.)

This is one of the APHA state affiliates at whose meetings an APHA team was present, in this case President John W. Knutson, D.D.S.; Reginald M. Atwater, M.D., executive secretary; William Zukel, M.D., assistant chief of the Public Health Service's heart disease control program; and William C. Gibson, M.P.H., professor of public health engineering, University of Michigan School of Public Health.

Officers elected are:

President: Vera Gee, speech and hearing consultant, Children's Health Center, Salt Lake City

President-Elect: Alden R. Cardwell, Sanitation Division, Salt Lake City Health Department

Vice-President: Elton Newman, M.D., professor of preventive medicine, University of Utah College of Medicine

Secretary-Treasurer: Virginia Cole, supervising nurse, Salt Lake City Health Department.

APHA AFFILIATED SOCIETIES AND BRANCHES

Society and Secretary

ARIZONA PUBLIC HEALTH ASSOCIATION, Goldie Gold, Maricopa County Health Dept., Phoenix
ARKANSAS PUBLIC HEALTH ASSOCIATION, Mrs. Vada Russell, State Health Dept. Bldg., Little Rock
CALIFORNIA, NORTHERN, PUBLIC HEALTH ASSOCIATION, Emanuel H. Pearl, 2220 Moorpark Ave., San Jose 28
CALIFORNIA, SOUTHERN, PUBLIC HEALTH ASSOCIATION, Byron O. Mork, M.D., University of California at Los Angeles, Los Angeles
COLORADO PUBLIC HEALTH ASSOCIATION, Margaret D. Lewis, 659 Cherokee St., Denver
CONNECTICUT PUBLIC HEALTH ASSOCIATION, Mrs. Claire Reinhardt, 310 Cedar St., New Haven
CUBAN PUBLIC HEALTH SOCIETY, Dr. Raphael Calvo Fonseca, San Rafael 1170, Havana
FLORIDA PUBLIC HEALTH ASSOCIATION, Nathan J. Schneider, Ph.D., P. O. Box 210, Jacksonville
GEORGIA PUBLIC HEALTH ASSOCIATION, Carl Fox, 33 Pryor St., N.E., Atlanta
IDAHO PUBLIC HEALTH ASSOCIATION, Mrs. D. W. McDougal, P. O. Box 563, Boise
ILLINOIS PUBLIC HEALTH ASSOCIATION, William J. Hixon, Evanston Health Dept., Evanston
INDIANA PUBLIC HEALTH ASSOCIATION, Hester Beth Bland, 1330 W. Michigan St., Indianapolis
IOWA PUBLIC HEALTH ASSOCIATION, Mary L. Wombacher, State Dept. of Health, Des Moines
KANSAS PUBLIC HEALTH ASSOCIATION, Evelyn Ford, State Board of Health, State Capitol, Topeka
LOUISIANA PUBLIC HEALTH ASSOCIATION, Mrs. Lucille Sawyer, Shreveport
MASSACHUSETTS PUBLIC HEALTH ASSOCIATION, Mrs. Elizabeth K. Caso, Dept. of Health, Cambridge
MICHIGAN PUBLIC HEALTH ASSOCIATION, Maurice J. Mayer, 405 Hollister Bldg., Lansing
MINNESOTA PUBLIC HEALTH CONFERENCE, D. S. Fleming, M.D., State Dept. of Health, University Campus, Minneapolis
MISSISSIPPI PUBLIC HEALTH ASSOCIATION, H. E. Boone, P. O. Box 1700, Jackson
MISSOURI PUBLIC HEALTH ASSOCIATION, Mrs. Nadia Craver, 5th Fl., State Office Bldg., Jefferson City
MONTANA PUBLIC HEALTH ASSOCIATION, Emma Wright, Box 811, Harve
NEBRASKA PUBLIC HEALTH ASSOCIATION, Matilda McIntire, M.D., Omaha-Douglas County Health Dept., Omaha
NEW MEXICO PUBLIC HEALTH ASSOCIATION, Robert Howell, 305 Terrace Ave., N. E., Albuquerque
NEW YORK CITY, PUBLIC HEALTH ASSOCIATION OF, Joseph Kadish, 164 W. 174th St.
NEW YORK STATE PUBLIC HEALTH ASSOCIATION, Mary C. Egan, State Dept. of Health, 333 E. Washington St., Syracuse 2, N. Y.
NORTH CAROLINA PUBLIC HEALTH ASSOCIATION, R. W. Brown, Bucombe County Health Dept., Asheville
NORTH DAKOTA PUBLIC HEALTH ASSOCIATION, Jean E. Norton, R.N., Box 133, Bismarck
OHIO PUBLIC HEALTH ASSOCIATION, Virginia Jones, Ohio Dept. of Health, Dayton
OKLAHOMA PUBLIC HEALTH ASSOCIATION, Marjorie Butler, 3400 North Eastern, Oklahoma City
OREGON PUBLIC HEALTH ASSOCIATION, T. M. Colasuonno, M.D., State Board of Health, Portland
PENNSYLVANIA PUBLIC HEALTH ASSOCIATION, Robert H. Cona, 303 N. Second St., Harrisburg
PUERTO RICO PUBLIC HEALTH ASSOCIATION, Margarita Martinez, Apartado 211, San Juan 2
SOUTH CAROLINA PUBLIC HEALTH ASSOCIATION, Laura M. DeMarse, State Health Dept., Columbia
SOUTH DAKOTA PUBLIC HEALTH ASSOCIATION, Louis E. Remily, State Dept. of Health, Pierre
TENNESSEE PUBLIC HEALTH ASSOCIATION, C. B. Tucker, M.D., State Dept. of Health, 420 Sixth Ave., N., Nashville
TEXAS PUBLIC HEALTH ASSOCIATION, H. E. Drumwright, City Health Dept., Dallas
UTAH PUBLIC HEALTH ASSOCIATION, Mrs. Virginia Cole, City Health Dept., 115 S. State St., Salt Lake City
VIRGINIA PUBLIC HEALTH ASSOCIATION, William A. Dorsey, P. O. Box 2088, Richmond
WASHINGTON STATE PUBLIC HEALTH ASSOCIATION, Kathleen Burwell, R.N., State Dept. of Health, Smith Tower, Seattle
WEST VIRGINIA PUBLIC HEALTH ASSOCIATION, Paul B. Shanks, State Health Dept., Charleston
WISCONSIN ASSOCIATION FOR PUBLIC HEALTH, Paul Weis, 1 W. Wilson St., Madison
SOUTHERN BRANCH, A.P.H.A., Mary Irene Cummins, Box 323, Harriman, Tenn.
WESTERN BRANCH, A.P.H.A., Mrs. L. Amy Darter, State Dept. of Health, 2151 Berkeley Way, Berkeley, Calif.

APHA membership application blank appears on page XXXIX

Employment Service

Important Notice

At the Annual Meeting in Cleveland the Employment Service booth will be located in the Scientific Exhibit area and will be staffed by personnel of the NURSE AND MEDICAL PLACEMENT CENTER of the New York State Employment Service in cooperation with the APHA. An Association representative will be available at the booth by appointment for vocational counseling.

Employers in need of personnel and individuals interested in new positions are urged to register their needs with the Association in advance of the meeting if possible. When known the convention address should be indicated.

The following pages present information for those seeking public health personnel and for those seeking positions in public health. Other information concerning vacancies and personnel available is on file in the Association office. Anyone wishing to have the benefit of this additional information can obtain it by writing to the Vocational Counseling and Placement Service of the Association.

Advertising space in these pages is available at special rates for the use of employers or individuals. The charges are $5 for the first 50 words or fraction thereof and $1 for each additional 10 words or fraction thereof. There is no charge to members or Fellows of the Association who desire to utilize the **Positions Wanted** portion of these pages. **Closing date** for receipt of advertisements is the first of the month preceding the desired month of publication.

POSITIONS AVAILABLE

District Health Director—Position available in one of nation's largest and most vigorous municipal health departments. Position involves planning, direction, and supervision of one of Philadelphia's 10 health districts. District health staffs at present each about 100, serving population of about 200,000. Several district health center buildings scheduled for opening this fall. Others planned and financed for construction in the near future. Integrated total health program includes preventive medicine, environmental health, public health nursing, mental health, dental health, and other essential services. City includes five medical schools and many other educational centers for possible affiliations. Starting salary is $11,461, with three annual increments to $13,142. Liberal civil service benefits include vacation and 13 paid holidays, sick leave, medical and hospital insurance, and a pension plan. In addition, a unique employer-paid life insurance policy is provided. For further information communicate with John J. Hanlon, M.D., Director of Public Health Services, Philadelphia Department of Public Health, 519 City Hall Annex, Philadelphia 7, Pa.

Maricopa County Public Health Director—$12,000–$15,000. Maricopa County seeks qualified applicants for public health director of the Consolidated County-City of Phoenix Health Department. One hundred and twenty personnel administer a health program covering 500,000 citizens. Minimum requirements: Medical school graduation, plus internship. Eligible to practice medicine in Arizona. Not less than three years' experience and graduate study in public health or pertinent full-time employment. Apply Wilbur Jenkins, Personnel Director, Maricopa County Personnel Department, 106 S. First Ave., Phoenix, Ariz.

Director, Diagnostic and Research Tuberculosis Laboratory—Central Florida; physician or nonphysician microbiologist or clinical chemist. Part-time employment will be considered. Write Dr. Albert V. Hardy, Director, Bureau of Laboratories, State Board of Health, P. O. Box 210, Jacksonville, Fla.

Medical Health Officer—for established rural county health department in central Illinois. Good personnel policies with vacation and retirement. Salary range $9,600–$12,000 for physician with public health training and experience. Contact W. T. Douglas, M.D., Hillsboro, Ill.

District Health Officer—For a young, locally well accepted and supported, two-county health department, including the preventive services for two Indian reservations. Headquarters, Hardin, Mont.—50 miles southeast of Billings. Additional staff positions

include five public health nurses, one health educator, and one sanitarian. Salary range—$10,000–$12,840, with entrance salary open. Position subject to Merit System, Social Security, and excellent state retirement benefits. Apply M. O. Anderson, M.D., President, District I Board of Health, Hardin, Mont.

Internist or General Practitioner—to head general medical division of a county hospital. Western Michigan resort area. Regular working hours. Pleasant surroundings. Starting salary $10,000–$12,000 yearly. Generous raises for one who proves interest and ability. Social Security and county retirement plan. Living quarters for single person if desired. Apply to H. D. Ireland, M.D., Sunshine Hospital, 750 Fuller Ave., N.E., Grand Rapids, Mich.

Director of Adult Health and Chronic Disease and Director of Maternal and Child Health—Two positions available in Philadelphia Department of Public Health as directors of new program in adult health and chronic disease and of expanding maternal and child health program. Responsibilities include planning of city-wide programs, research, establishment of professional standards of operation, and evaluation. Department has close working relationships with unusually active and cooperative civic, voluntary, and professional groups. City includes five medical schools and many other educational centers for possible affiliations. Starting salary is $11,461 with three annual increments to $13,142. Liberal civil service benefits include vacation and 13 paid holidays, sick leave, medical and hospital insurance, and a pension plan. In addition, a unique employer-paid life insurance policy is provided. For further information communicate with John J. Hanlon, M.D., Director of Public Health Services, Philadelphia Department of Public Health, 519 City Hall Annex, Philadelphia 7, Pa.

Washington State. Opening for **Director of Maternal and Child Health Services**—in Washington State Health Department. Eligibility for a license to practice in Washington, M.P.H. degree plus three years of experience required. Salary range $10,908–$13,020 per annum. Write Dr. Bernard Bucove, State Director of Health, 1412 Smith Tower, Seattle 4, Wash.

Public Health Physician—for director of the Monongalia County Health Department, Morgantown, W. Va. (population 61,000). Location of state university with medical center nearing completion. Opportunity for medical school association for qualified man. Starting salary $12,000–$15,300, depending upon qualifications. Address inquiries to N. H. Dyer, M.D., M.P.H., Director, West Virginia State Health Department, Charleston 5, W. Va.

Assistant Commissioner—for preventive medicine, Baltimore City Health Department. Salary range $12,840–$15,600. Requirements: Graduation in medicine, eligibility for license in Maryland, certification for eligibility by the Board of Preventive Medicine or Pediatrics; four years' experience, including three in administration. Forms available from Commissioner of Health, Baltimore, Md.

Public Health Physician (Epidemiologist)—Wisconsin State Board of Health, Madison. Plan, organize, and develop epidemiological studies and programs on a state level; participate and cooperate with the state district health officers in field investigations. M.D., M.P.H. degrees plus three years' experience in public health with emphasis upon epidemiology. Eligibility for a license to practice medicine in Wisconsin. Salary: $11,592 with five annual increments to $14,412 per year, plus travel allowance. Civil service. Vacation, sick leave, Social Security, and retirement benefits. Write: Milton Feig, M.D., Director, Section on Preventable Diseases, State Board of Health, State Office Building, Madison 2, Wis.

Public Health Physician (District Health Officer)—State of Wisconsin. Two positions. One position includes 11 counties in north central part of state, headquarters Rhinelander. Second position includes eight counties in area bordering Lake Michigan, north of Milwaukee, headquarters Fond du Lac. Act as medical administrator of district office and district epidemiologist; plan, organize, supervise work of district office personnel consisting of public health engineer, public health nurse, sanitarians, nutritionist, dental hygienist. M.P.H. degree plus three years' experience in public health administration; eligibility for a license in Wisconsin. Salary: $11,592–$14,412 per year, plus travel allowance. Civil service, vacation, sick leave, Social Security, retirement benefits. Write: Carl N. Neupert, M.D., State Health Officer, 400 State Office Bldg., Madison 2, Wis.

Veterinarians—New York State Department of Health has two challenging positions for qualified veterinarians to administer and supervise new state-wide meat inspection program. Beginning salaries $6,450 and $7,890 depending on qualifications. Retirement, Social Security, Health Insurance, sick leave, vacations. Write: Mr. Richard H. Mattox, Director of Personnel, New York State Department of Health, Albany, N. Y.

Bacteriologist IV—State Board of Health, State Laboratory of Hygiene, Madison, Wis. Supervise development of voluntary system of approval of laboratories to perform premarital blood tests, employing standard accepted laboratory procedures; evaluate work of hospital laboratories wishing approval to do tests; perform technical laboratory examina-

tions; provide training for hospital laboratory technicians where indicated. Ph.D. degree and three years' experience in a public health diagnostic laboratory; candidates with a M.A. degree may substitute additional experience for the Ph.D. Salary: $6,372–$7,692 per year, plus travel allowance. Civil service, vacation, sick leave, Social Security, retirement. Write: W. D. Stovall, M.D., Director, State Laboratory of Hygiene, 437 Henry Mall, Madison 6, Wis.

Director of Public Health Nursing—Position open. Santa Barbara County Health Department requests qualified applicants who meet eligibility requirements for director of public health nursing to submit letters of application. Salary range: $455–$553. Car furnished. For further information write to Joseph T. Nardo, M.D., County Health Officer, P. O. Box 119, Santa Barbara, Calif.

Staff positions open in County Health Department Training Center located at Bowling Green, Ky. **Training Nurse**—Master's degree in nursing; three years' public health nursing experience; two years' supervisory experience in a public health agency or two years of teaching or consultation experience. Salary $6,240. **Training Sanitarian**—Master's degree in public health sanitation and five years' experience in public health sanitary inspection work, including two years in a supervisory capacity. Salary $6,240. Write Merit System Supervisor, Kentucky State Department of Health, 620 S. Third St., Louisville, Ky.

Medical Director—for Crippled Children Commission located at Louisville. Requirements: M.D. eligible for licensure in Kentucky; residency in pediatrics or orthopedics; five years' experience in the practice of pediatrics or orthopedics or in public health work. Salary $12,000. Write Merit System Supervisor, Kentucky State Department of Health, 620 S. Third St., Louisville, Ky.

Public Health Nurse—Generalized county program in heart of beautiful Rock River Valley. Excellent working conditions: 37½ hour week, three weeks' paid vacation, and 18 days' sick leave, plus 10 holidays. Salary $4,640, includes liberal car allowance. Apply Director, Lee County Health Department, 316 W. Third St., Dixon, Ill.

Health Officer—for established county health department of 55,000 in northwestern California. Salary: $12,000 per year, plus travel allowance of $135 per month. Excellent personnel policies and good retirement plan. **Public Health Nurse**—$4,626 starting salary, plus $120 per month travel allowance. Apply, Administrator, Mendocino County Health Department, P. O. Box 205, Ukiah, Calif.

Deputy Director of Public Health—Position available immediately. M.D. licensed to practice in Virginia. Staff of 47 serves progressive urban area adjacent to Washington, D. C. Generalized public health program. Salary per annum $10,260. Write, giving qualifications, to Director of Public Health, Alexandria, Va.

Qualified **Public Health Nurse**—Must be eligible for California certificate. Salary $376–$458; travel allowance for use of private car. Write to San Benito County Health Dept., Health Center Bldg., Hollister, Calif.

Supervising Public Health Nurse—Salary range $423–$523. Baccalaureate degree and California P.H.N. certificate required. **Public Health Nurse**—Salary range $380–$470. California P.H.N. certificate required. First increase after six months. Car allowance 10 cents a mile. Applicants should contact M. W. Husband, M.D., Health Officer, Monterey County Health Department, 154 W. Alisal St., Salinas, Calif.

Wanted: **Public Health Nurse Supervisors**—Baltimore County Health Department. Suburban, rural, and industrialized areas. Population 400,000. Eight miles from Baltimore City. Generalized program, including school health program. Cars furnished. Sick leave and vacation after six months. Five-day week, retirement plan, 13 paid holidays. Present salary $4,263–$5,151. Write to Dr. William H. F. Warthen, Health Officer, Baltimore County Health Department, Towson 4, Md.

Wanted: **Qualified Public Health Nurses**—in the Baltimore County Health Department. Suburban, industrialized, and rural areas. Population 400,000. Eight miles from Baltimore. Generalized program, including school health program. Cars furnished. Sick leave and vacation after six months. Five-day week, retirement plan, 13 paid holidays. **Senior Public Health Nurse** beginning salary $3,399; **Junior Public Health Nurse** $3,099. Write to Dr. William H. F. Warthen, Health Officer, Baltimore County Health Department, Towson 4, Md.

Public Health Nursing Positions—Available in combination health department and visiting nurse service. Public health nursing preparation required. Generalized service. Agency in a university community. Beginning salary $3,996, yearly increments. Social Security. Please write Miss Patricia Walsh, Nursing Director, Washtenaw County Health Department, County Bldg., Ann Arbor, Mich.

Public Health Nursing Positions—Available in Health Department with the City of Flint, a rapidly growing city of 180,000 population. Beginning, intermediate, and administrative positions are available. Five-day, 40-hour week, with liberal retirement,

vacation, and sick leave policies. Car furnished. Beginning salary rates: $3,952, $4,329, or $4,654, depending on experience and qualifications. Automatic increases and longevity rates for length of service. Apply Flint Civil Service Commission, City Hall, Flint, Mich.

Public Health Nursing Position—Rural and industrial county population 95,000. Conveniently located near Detroit, Ann Arbor, and Toledo. Generalized service. Starting salary $4,020 for nurses with public health training. Social Security; Blue Cross, life insurance, sick leave and vacation benefits; travel allowance. Write Dr. C. D. Barrett, Monroe County Health Department, Courthouse, Monroe, Mich.

Supervisor of Public Health Nurses—Salary $5,650–$6,010, plus car allowance and longevity of 2, 4, 6, and 8 per cent at the completion of five, 10, 15, and 20 years. Requirements: Two years' postgraduate work in public health, five years' experience in public health nursing, two years of which have been in a supervisory capacity. City of Saginaw, Mich., located in central part of Eastern Michigan (population 100,000). Benefits include 10 days per year sick leave, two weeks' annual leave, retirement, Social Security, and paid hospitalization. Apply Personnel Department, City Hall, Saginaw, Mich.

Public Health Nursing Associate Director and Supervisor Vacancies—Combination Visiting Nurses Association and City Bureau of Nursing. Population served—445,000. Professional staff of 42. Physical therapist and nutrition counselor available. General field supervisors carry one specialty each. Educational assistant for staff and Ohio and Cincinnati university students. Liberal personnel policies. Car, eight cents a mile. Salary open. Progressive and friendly city. Write Sophie E. Fevold, Executive Director, The Visiting Nurses Association and Bureau of Nursing, 401 Municipal Bldg., Dayton 2, Ohio.

Allegan County, Michigan, has immediate openings for the following:

Public Health Nurses—Starting salaries $3,720 and $3,960, according to qualifications, with annual $120 increases. To carry on generalized public health nursing programs. Minimum qualifications include licensure in nursing in Michigan and one year of academic public health training.

Sanitarian—Generalized program, etc. Generalized program in environmental sanitation; emphasis on milk, food, and resort sanitation. Graduate from four-year college; science background preferable. Salary $4,200, with annual $120 increases.

Allegan County, Mich., is a growing county, with an estimated population of 54,000, situated on Lake Michigan. We have liberal personnel policies, including a five-day week, Social Security, vacation of two days per month cumulative to 24 working days and liberal travel allowance. Write A. B. Mitchell, M.D., Director, Allegan County Health Department, Allegan, Mich.

Open to citizens of the United States who possess the minimum qualifications:

Medical Social Work Adviser (Female)—$5,096–$6,136.

Medical Social Worker (Female)—$4,472–$5,356.

Public Health Nurse (Female)—$3,900–$4,680.

Nurse Anesthetist (Female)—$3,900–$4,680.

Medical Technologist I—$3,588–$4,264.

Write Personnel Director, Municipal Building, Hartford, Conn.

Sanitation Supervisor—for manufacturing plant sanitation program; must be able to work various shifts. Free retirement, hospital, surgical, and life insurance plans. Profit sharing and two weeks' vacation. Starting salary $4,800–$5,000, depending on experience. Age to 30 with degree preferably in biological sciences, public health, sanitary engineering. Write, giving qualifications, to Robert R. Ringo, Kroger Company, 1212 State St., Cincinnati 4, Ohio.

Sanitarian I—Generalized program. Salary $5,045 per year. Civil service requirements: B.S. degree in public health, sanitary science, food, or dairy technology; other degrees acceptable with experience.

Public Health Engineer I—$5,527 per year. Civil service requirements: Bachelor's degree in engineering. Applications from Personnel Officer, Department of Public Health, Room 504, City Hall Annex, Philadelphia, Pa.

Public Health Engineer—Two openings State Health Department, working as assistant to head, Sanitary Engineering Section. Requires one year graduate study (specialized experience may be substituted) in sanitary, civil, or public health engineering and three years' engineering experience, including two years of public health or sanitary engineering. Salary $561–$668, depending on qualifications. Apply Washington State Personnel Board, 317 Smith Tower, Seattle, Wash.

A leading national voluntary health association has openings in various parts of the country in many categories: **Field Workers, Health Educators, Chapter Executives.** Master's degree in health education or related fields desirable but not essential. Some experience in public health, community organization or administration of voluntary health agency required. Positions and salaries commensurate with background and prevailing local conditions. We want candidates who are interested in long-range career planning. Please send résumé to **Box C-31,** Employment Service, APHA.

Director of Health Education—County health department planning full-scale program in prosperous central state community. Other health educators, clerical staff, full complement of workers available. Minimum requirement: M.S. in public health. Important personal qualifications: Basic public health knowledge, imagination, sense of public relations, sound mental and physical health, desire to work. Salary $6,000–$9,600. Can start above minimum. Write **Box HE-85,** Employment Service, APHA.

Director of Health Education—to develop and direct health education and case-finding program; largest county tuberculosis association in Massachusetts, serving 46 communities quite varied in size and population; ranging from urban industrialized to suburban and semirural; population 840,000. Master's degree in public health and satisfactory experience required. Starting salary up to $6,000 depending upon experience and qualifications. Social Security, Blue Cross-Blue Shield, four weeks' vacation, liberal sick leave. Car necessary; travel allowance eight cents per mile. Write Mrs. Alberta Raskauskas, Middlesex Health Association, 385 Broadway, Somerville 45, Mass.

Health Educator—Develop health education program in multicounty region in and around Seattle, Wash.; also work on statewide programs. Requirements: M.P.H., man or woman under 40, car. Salary between $4,800 and $6,000, eight cents per mile and travel allowance, Social Security, medical coverage. Victor Schoch, Executive Director, Washington State Heart Association, 3121 Arcade Bldg., Seattle 1, Wash.

Public Health Nutritionist—Develop and conduct program in district area, including consultation to nurses, teachers, social workers, small hospitals, nursing homes, children's institutions; training programs; community studies and general nutrition education. Master's degree, internship, two years' hospital and community nutrition experience. Salary $5,712–$6,852 plus travel expense. Vacation, sick leave, Social Security, retirement. Dr. Amy L. Hunter, State Board of Health, Madison, Wis.

Occupational Therapist—graduate, or with credits toward degree, to work in county hospital with chronic disease and tuberculosis patients. Salary range $3,744–$5,096. Pleasant living quarters available. Regular hours, Social Security, and retirement plan. Apply H. D. Ireland, M.D., Sunshine Hospital, 750 Fuller Ave., N.E., Grand Rapids, Mich.

POSITIONS WANTED

On Box Numbers, Address APHA at 1790 Broadway, New York 19, N. Y.

Public Health Engineer—wishes to locate in the Midwest or West. Seventeen years' experience. Now employed in supervisory capacity. Write **Box E-37,** Employment Service, APHA.

B.S., M.Sc.—Male, married, experienced in many phases of public health: environmental sanitation, program planning, surveys, food and water sanitation, audiovisual aids, and research. Broad academic training in bacteriology, chemistry, public health administration, and business administration. Desires responsible administrative position in public health or research in related fields. Write **Box C-35,** Employment Service, APHA.

Health Educator—B.S. in Ed., M.P.H. Ten years' experience in public health education, county, district, and state levels. Experienced and licensed to teach health in secondary schools. School administration experience. Write **Box HE-76,** Employment Service, APHA.

Research Analyst—M.A.; 10 years' varied experience as college teacher, records consultant in United States Public Health Service, statistician in local health department, and research analyst on interagency project encompassing public health, welfare, and vocational rehabilitation. Age 37, married, one child. Write **ST-13,** Employment Service, APHA.

—ALAMEDA COUNTY HEALTH DEPARTMENT—

Recent consolidation of three major health departments in the East Bay Area makes the Alameda County Health Department one of the largest in California. The existing program is progressive, characterized by high professional standards, and offers opportunities for work on a full range of public health problems in rural, suburban, and metropolitan areas.

Civil service appointments are now available with excellent personnel policies and benefits. All salary ranges are five-step, with the first increase granted after six months. Top salary step is reached after three years.

ASSISTANT HEALTH OFFICER (DIVISION CHIEF)—Annual Salary Range: $10,908–$12,816

Responsibilities include program planning and direction of central services concerned with disease control.

Requirements: Eligibility to practice medicine in California, M.P.H., and a minimum of three years' experience.

ASSISTANT HEALTH OFFICER (DIVISION CHIEF)—Annual Salary Range: $10,908–$12,816

To direct programs in one of the health department districts administering services to the public.

Requirements: Eligibility to practice medicine in California, M.P.H., and a minimum of three years' experience.

PUBLIC HEALTH DENTIST (CHIEF OF THE BUREAU OF DENTAL HEALTH)—Annual Salary: $10,332

Responsible for program planning and direction of services for control of dental disease through educational programs.

Requirements: M.P.H. degree—Experience and training in public health preferred.

HEALTH EDUCATOR III (CHIEF, BUREAU OF HEALTH EDUCATION)—Annual Salary Range: $6,108–$7,512

To administer the program of health education in the centralized Bureau of Health Education with a staff of three trained health educators.

Requirements: Three years' experience and M.P.H. degree in health education.

SANITARIANS—Monthly Salary Range: $394–$484

To carry out a generalized sanitation program in an assigned district.

Requirements: Bachelor's degree and eligibility for registration as a sanitarian in California.

PUBLIC HEALTH NURSES—Monthly Salary Range: $394–$484

To perform generalized public health nursing services, including school and some bedside nursing.

Requirements: Completion of an approved curriculum in public health nursing, including a bachelor's degree and eligibility for California public health nursing certificate.

Address Inquiries to: James C. Malcolm, M.D., M.P.H., Health Officer, Alameda County Health Department, 15000 Foothill Boulevard, San Leandro, Calif.

Commercial Advertisements

All communications on the following commercial advertisements should be sent to Burneice Larson, Medical Bureau, Suite 605, 900 North Michigan Avenue, Chicago 11, Ill.

OPPORTUNITIES AVAILABLE

(a) Epidemiologist; preventive medicine staff, foreign operations, leading industrial company; $18,000; federal tax free. (b) Psychiatrist to head mental health program and public health physicians to direct crippled children, maternal, and child health departments; duties entirely administrative and clinical consultations; outside United States; salary for psychiatrist, $20,000; for directors of services, $13,000–$15,000. (c) Director, student health department, 2,000 students; woman physician eligible; Southwest. (d) Assistant director, university health service, 10,000 students; West. (e) Director, city-county department; population 500,000; resort city, Southwest. (f) Health educator; considerable travel; headquarters university city, Pacific Coast; $500 plus travel expenses. (g) Program secretary; master's in public health and experience in community organization required; considerable travel; headquarters university city, Midwest. (h) Bacteriologist; supervisory position, infectious diseases research laboratory; affiliated medical school; M.S. required; opportunity faculty appointments. (i) Associate professor, public health nursing; state university; South; $6,000–$7,200. (j) Professor, public health nursing; master's required; duties include participation in administration of student and staff education program; East. (k) Director and assistant director of nurses; staff and clinic nurses; county health department; new salary schedule; California. (l) Director of nurses, city health department; $5,650–$6,010; Michigan. (m) Educational director and administrative assistant, visiting nurses' association; minimum, B.S. in public health; university city; Midwest.

OPPORTUNITIES WANTED

WANTED—Opportunities for public health physicians, nurses, health educators, engineers, laboratory personnel. Candidates in all parts of the country, available for administrative, academic, and staff appointments. Negotiations strictly confidential.

James Alexander Miller Fellowship

The New York Tuberculosis and Health Association is now accepting applications for the 1958 James Alexander Miller Fellowship starting July 1, 1958. This has been established to assist a qualified investigator in medical or biological sciences who will devote full time to a research project in tuberculosis or a related problem. He must have assurance that he will be acceptable in the laboratory or clinic of his choice and will be provided the necessary facilities for the pursuit of the work.

The annual stipend is $7,000, with possible extension for a second year. Application forms are supplied by and should be submitted in duplicate by November 1, 1957, to the James Alexander Miller Fellowship Committee, New York Tuberculosis and Health Association, 386 Fourth Ave., New York 16, N. Y.

News from the Field

WHO News

1958 Assembly in Minneapolis

The 10th Anniversary World Health Assembly in 1958 will be held in Minneapolis, the first to be held in the United States. The State Department, which invited the Assembly to meet in this country, has been notified of the Minneapolis selection by WHO headquarters office in Geneva. The Assembly will be held in late May or early June of 1958.

Accident Prevention Based on Facts

"Accidents in Childhood," the report of a WHO advisory group, is subtitled Facts as a Basis for Prevention. The group, meeting in Geneva in June, 1956, recommended that because accidents outrank any other cause of mortality among children over the age of one year in Europe, their study and prevention should have high priority in the public health programs of each country. Suitable grouping and more rapid reporting and processing of mortality data is recommended as a useful basis for preventive measures. Other recommendations are for morbidity studies, case-finding measures, epidemiologic technics such as information on the chain of circumstances leading to the accident, and the social circumstances and physical and emotional condition of those involved in an accident. Uniformity in recording information and rehabilitation are part of an accident prevention program.

George M. Wheatley, M.D., 3rd vice-president of the Metropolitan Life Insurance Company, was a consultant to the group. Among the secretariat was Jessie Bierman, M.D., formerly in the California Department of Health, now chief of WHO's Maternal and Child Health Section.

The full report is available from the Columbia University Press, 2960 Broadway, New York 27; 30 cents.

Nutrition in Central America

"The Vital Work of INCAP" reviews the story of what the Institute of Nutrition of Central America and Panama has accomplished during the seven years of its existence. It was founded jointly by Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama, with the cooperation of the W. K. Kellogg Foundation, which provides funds for fellowship training of key workers and for basic equipment, while the Pan American Sanitary Bureau as the administrative agency provides technical guidance.

Among the activities carried out have been dietary surveys of the countries as well as clinical surveys of the population which found generally low levels of nutrition. The problem of goiter has been attacked with the iodating of the crude salt universally used. The problem of kwashiorkor is being dealt with by improving the strains of corn and beans to yield more protein and developing some of the high protein fibers as food.

The story is reviewed in the March–April 1957 (Vol. 10, No. 2) issue of World Health published bimonthly by the World Health Organization, Geneva.

Halloween and UNICEF

Planning is now going forward for "Trick and Treat for UNICEF" in 1957. By this program youngsters collect pennies, nickels, and dimes for UNICEF through their Halloween doorbell ringing. In 1956, this resulted in a gift of about three-quarters of a million dollars, from 7,500 communities, with which to provide penicillin, vaccine, milk, and vitamins for children round

the world. In the five years of this "sharing" program by youth it has snowballed from fewer than 500 communities taking part with a total contribution of $32,000 to its 1956 proportions.

For schools and other groups planning a "Trick and Treat for UNICEF" for the coming Halloween, UNICEF has provided a planning kit with materials for a group of 25 at $1. U. S. Committee for UNICEF, United Nations, New York, N. Y.

Handicapped Child Education Study

A study of the education of handicapped children in 15 European countries is being jointly sponsored by the International Society for the Welfare of Cripples and the International Union for Child Welfare. Basic data will be collected as a means of perfecting the program of the Society's Committee on Education, which was organized in 1955 to collect information and make recommendation on the education and vocational training of the world's physically handicapped.

The study, the results of which are to be published in a reference book in the fall of 1958, is being financed through grants from the Association for the Aid of Crippled Children, National Foundation for Infantile Paralysis, and the World Rehabilitation Fund. The study is being carried on by Wallace W. Taylor, professor of education, State University College for Teachers, Albany, and his wife, Isabelle Wagner Taylor, chairman, Department of Psychology, Russell Sage College, each on leave. Their headquarters are in Barcelona, Spain.

Pittsburgh's Air Pollution Program

Because of the need for air pollution engineers "who are broadly educated and have the capacity to deal with all aspects of the problem, both technical and administrative," the Pittsburgh School of Public Health announces a new graduate program in air pollution. The program will be open only to those having an engineering degree, adequate training in chemistry, and preferably some years of engineering experience.

The study program of one year leads to the degree of master of science in hygiene and will start in September, 1957. It is intended to give the student "a good understanding of the basic physical and social relationships between man and his environment as well as instruction in principles pertaining specifically to air pollution." Theodore F. Hatch, professor of industrial health engineering, is in charge of the program, assisted by Wesley C. L. Hemeon of Hemeon Associates, Air Pollution Research Engineers, and M. A. Shapiro, assistant professor of sanitary engineering, from whom further information and application blanks are available. Graduate School of Public Health, Pittsburgh 13, Pa.

Training Nurses for the West

The Western Council for Higher Education in Nursing has undertaken what it calls "a series of bold new ventures in nursing education," with the aim of providing "more and better education for the leaders who will be training the working nurses of the future," the result of which "will be better patient care throughout the West in the years to come."

The Council, a part of the 13-state Western Commission for Higher Education, was organized in January, 1957. Since then it has developed plans for five programs. One is for short-term courses (one week during the summer, one during the fall in each of three years) for 120 nurses in leadership positions. Here nursing service and nursing education leaders are helped to

improve their teaching and administrative skills in courses given at three western universities. The sessions are followed up by nursing consultants visiting each student at her job.

Regional research conferences are planned for three universities, one for exchange of information on research projects in nursing going on in western universities and consideration of new projects. Another will cover research technics, and a third will plan research projects in the area of patient care.

A five-year nursing fellowship program is designed to provide 125 masters' and 25 doctoral fellowships at western universities with graduate programs in nursing.

The lack of prepared teachers and administrators of nursing has led to the planning of an experimental doctoral program in which a team of faculty members in an interdisciplinary conference will assess the value of doctoral programs for nurses. There are presently no doctoral nursing programs in the West.

The fifth element in the planned activities is a regional nursing survey by the WICHE in cooperation with the Public Health Service.

Jo Eleanor Elliott, R.N., is nurse consultant for WICHE and its Nursing Council.

Two-Year $400,000 Dental Survey

At the request of the American Dental Association "a survey that can and should be as important to dentistry in all its aspects as the Flexner study of 1908 was to medicine" has been undertaken by the American Council on Education. The study, to take two years, will deal with the four major areas of dentistry—dental education, research, practice, and dental public health.

Arthur S. Flemming, president of Ohio Wesleyan University and former director, Office of Defense Mobilization, is chairman of a 15-member committee directing the study. The committee includes the profession, public health experts, university personnel, and industrialists, among them Otto Brandhorst, D.D.S., secretary, American College of Dentists; George Bugbee, president, Health Information Foundation; Anna Fillmore, R.N., director, National League for Nursing; Herman E. Hilleboe, M.D., New York State health commissioner; Don W. Gullett, D.D.S., secretary, Canadian Dental Association, and Chancellor Franklin D. Murphy, University of Kansas.

Offices in Chicago are headed by a survey director and some dozen technical, secretarial, and clerical assistants. The $400,000 study is being financed jointly by the W. K. Kellogg Foundation, American Dental Association, Rockefeller Brothers Fund, and the Hill Family Foundation.

Heading Off an Influenza Invasion

The New York State Health Department is at work on a pilot project to produce a vaccine specifically aimed at prevention of the influenza now sweeping the Far East. (Vaccines are also being manufactured by several commercial biologics producers.)

In addition, the department has available a team of epidemiologists to investigate reports of influenza and to make laboratory diagnoses. It has alerted local health officers to be on the watch for and to report suspicious cases.

Medical Record Consultants Organize

The Association of Medical Record Consultants has been incorporated as a nonprofit association under the laws of the State of Illinois. Its stated major purpose is to furnish a professional organization to which qualified medical record consultants may belong. The incorporators met in Chicago on June

21–22 to adopt a constitution and by-laws and appoint temporary officers and directors. They are as follows:

President: Stephen S. Henkin
Secretary-Treasurer: Adaline C. Hayden
Directors: Edward T. Thompson, M.D.
Helen Culian
Enna C. Black.

The first meeting of the association is planned for the fall of 1957.

Southern Nuclear Energy Council

The Southern Regional Educational Board has created an Advisory Council on Nuclear Energy, the purpose of which is to help the 16 Southern member states promote atomic developments on an interstate basis. The 23 members include one representative from each state and seven members-at-large representing as many fields. Public health is represented by R. H. Hutcheson, M.D., Tennessee's commissioner of public health.

Possibly Public Health Fellowships

The John Hay Whitney Foundation is ready to accept applications for its 1958–1959 Opportunity Fellowships. These are designed for anyone "who has given evidence of special ability and who has not had full opportunity to develop his talents because of arbitrary barriers such as racial or cultural background or region of residence and are open not only for graduate academic study but for any kind of training or experience which may be most useful in developing varied talents and varied forms of leadership. . . . Candidates are expected to be mature enough to have given positive evidence of superior promise yet young enough to have their careers before them, in general between the ages of 22 and 35."

Awards are for a full year of work and are made on the basis of formal written applications, the deadline for the receipt of which is November 30. Annual stipend ranges from $1,000 to $3,000.

Application forms and further information from Opportunity Fellowships, John Hay Whitney Foundation, 630 Fifth Avenue, New York 20.

PERSONALS

PHILIP S. AKREE, former executive director, Family Consultation Service, Wichita, Kans., has been named the American Social Hygiene Association's regional representative for family life education in the Central Atlantic States.

ELMER J. ANDERSON, Ed.D., M.P.H.,* formerly director, Office of Health Education, Erie County Department of Health, and more recently health education adviser to the Government of India, is now associate secretary, Health Division, Council of Social Agencies, Rochester, N. Y.

LEROY ASERLIND, former speech and hearing therapist for the Klamath Falls School District, Ore., is now speech and hearing consultant, Division of Child Health Services, Montana State Health Department.

PAUL BARENBERG,† formerly in the Division of Sanitation, Peoria (Ill.) Health Department, is now administrative assistant, St. Louis County Health Department, Mo.

MARGARET BELL, M.D.,* professor of hygiene and physical education, chairman of the program of physical education for women, University of Michigan School of Public Health, and a physician in the University Health Service, has retired.

LUCIEN L. BENEPE, registrar of vital statistics, Montana State Health Department, has retired after 35 years' service.

JOSEPH M. BOBBITT, Ph.D., chief, Professional Services Branch, has been appointed assistant director, National Institute of Mental Health.

L. LARAMOUR BRYAN, M.D., former acting medical inspector of the department, has been named deputy assistant commissioner, State Department of Mental Hygiene, Albany, N. Y.

PAUL J. CHRISTENSON, M.D.,† former health commissioner of Utica, has been appointed to the medical staff, Norwich (N.Y.) Pharmacal Company and Eaton Laboratories.

* Fellow.
† Member.

GILBERT DALLDORF, M.D., director, Division of Laboratories and Research, New York State Department of Health, Albany, received an honorary doctorate from the University of Freiburg, Germany, on June 24, on the occasion of the university's 500th anniversary.

GEORGE B. DARLING, Dr.P.H.,* professor of human ecology, Yale University School of Medicine, has been appointed director, Atomic Bomb Casualty Commission with headquarters in Hiroshima and Nagasaki, Japan.

ANTHONY DONOVAN, M.D.,† medical director, Public Health Service, for the past two years on special assignment to the International Cooperation Administration, in several countries, is now chief, Health and Sanitation Division, U. S. Operations Mission to Pakistan, with headquarters in Karachi.

ENGLEHARDT AUGUST ECKHARDT, former vice-president in charge of research, Gulf Research and Development Company, Pittsburgh, has been appointed assistant director, Division of Mathematical, Physical, and Engineering Sciences, National Science Foundation.

S. W. EVANS,† health program representative, Division of Special Health Services, Public Health Service, has been transferred from the Heart Disease Control Program to the Accident Prevention Program assigned as field representative, Automotive Crash Injury Research Project, California State Department of Public Health, Berkeley.

MARY FITZGERALD, M.S.,* formerly with the Massachusetts Division, American Cancer Society, is now health educator, Springfield (Mass.) Health Department.

WILLIAM S. FLASH, Ph.D.,† former lecturer on public administration, Harvard University School of Public Health, is now associate professor of public administration, the American University of Beirut, Lebanon.

JOHN F. FULTON, M.D., Sterling professor of the history of medicine, Yale University School of Medicine, has received the honorary doctor of letters degree from Oxford University in England, for distinguished contributions to English letters, particularly his biography of HARVEY CUSHING, M.D.

AGNES E. GERDING,* formerly associate, Program Services Development, National Tuberculosis Association, is now program director, Brooklyn (N.Y.) Tuberculosis and Health Association.

WILLIAM HADDON, Jr., M.D., M.P.H.,† former student and member of the research staff, Harvard School of Public Health, has been named director, Driver Research and Testing Center, New York State Health Department.

IRA V. HISCOCK, Sc.D.,* professor of public health, Yale University School of Medicine, received the 1957 C.-E. A. Winslow Award for outstanding services to public health in Connecticut from the Connecticut Public Health Association at its annual meeting in May.

HELEN JONES, R.N., former staff nurse, Creek County (Okla.) Health Department, has been promoted to district health nursing supervision, assigned to northeast counties, Ottawa, Delaware, Mayes, Rogers, Creek, and Okmulgee.

REUBEN L. KAHN, D.Sc.,† professor of serology and chief of the serology laboratory, University of Michigan, and discoverer of the Kahn blood test for syphilis, has retired after 29 years at the university, but will continue research as consultant in the Department of Dermatology and Syphilology.

THERESA KNIGHT, R.N., is consultant public health nurse, Oklahoma State Department of Health.

EDWIN R. LEIBERT, former public relations director, Health Information Foundation, has been appointed associate director, Public Relations Division, National Tuberculosis Association, New York City.

ALLAN MARLOWE,† former assistant director of industrial health, Brooklyn Tuberculosis and Health Association, has been appointed executive secretary of its Fort Greene District Health Committee.

FRED MAYES, M.D., M.P.H.,* former associate professor of public health practice, Harvard School of Public Health, has accepted appointment in the regular corps, U. S. Public Health Service, with the grade of Medical Director, and has been assigned to the Office of Program Analysis, Bureau of State Services, Washington, D. C.

CAREY P. MCCORD, M.D.,* resident lecturer in industrial health, University of North Carolina School of Public Health, has retired.

M. L. MCDONALD, M.A.,* former health educator, Dallas (Tex.) Health Department, has been appointed director of the Dallas Health Museum.

JAMES H. MEANS, M.D.,† former chief of medical services, Massachusetts Institute of Technology, has retired.

MARTIN MEYERSON, research vice-president, American Council to Improve Our Neighborhoods, has been appointed the first Frank Backus Williams professor of city planning and urban research, Harvard Uni-

* Fellow.
† Member.

versity, and director of Harvard's new center for urban studies in the Graduate School for Design, thus transferring ACTION's research office from Philadelphia to Cambridge.

HOWARD MITCHELL, M.D.,† director, Division of Maternal and Child Health, Indiana State Board of Health, has resigned to become associate clinical professor of public health, University of California School of Public Health, and an assistant health officer, Berkeley Department of Public Health.

JOSEPH G. MURPHY,† former executive secretary, Anti-Tuberculosis League of Summit County, Ohio, is now executive secretary, Westchester Tuberculosis and Public Health Association, New York, succeeding MARGARET JOYCE,† retired.

BLUCHER A. POOLE,* director of environmental sanitation, Indiana State Board of Health, has succeeded KENNETH M. LLOYD as chairman, Ohio River Valley Water Sanitation Commission.

ELIZABETH KERR PORTER, R.N., dean, Frances Payne Bolton School of Nursing, Western Reserve University, Cleveland, has received a biennial Florence Nightingale Medal of the International Committee of the Red Cross.

A. D. POTTER, former chief, Chemistry Section, Texas State Health Department Laboratories, has retired.

BAXTER K. RICHARDSON,* deputy director and senior administrative officer, Illinois Department of Public Health, was recently presented a Distinguished Service Certificate by the Illinois State Medical Society for his long-term distinguished service to medicine.

MILTON I. ROEMER, M.D.,* former director of research about coordination of services to the chronically ill for the Council of Jewish Federations and Welfare Funds, has been appointed director of research, Sloan Institute of Hospital Administration, Cornell University, and associate professor of hospital administration in the Graduate School of Business and Public Administration.

LEONARD S. ROSENFELD, M.D., M.P.H.,* former director of medical care evaluation studies, United Community Services of Metropolitan Boston, and instructor in public health practice, Harvard School of Public Health, is now assistant executive director, Community Health Association, Detroit, Mich.

NANCY JOY RUSSELL, program consultant, Will County (Ill.) Tuberculosis Association, is the 1957–1958 recipient of the W. P. Shahan Memorial Scholarship for study leading to the degree of master of public health.

VIOLA RUSSELL, M.D., director,* Division of Maternal and Child Health, Vermont State Health Department, has retired. She has been succeeded by WILLIAM WORTHINGTON, M.D., who will head a newly created Division of Child Health Services including guidance clinics, crippled children's services, and maternal and child health programs.

DANIEL H. SCHWARTZ, Ph.D.,† former deputy director of public education, American Cancer Society, is assistant to the executive director, National Jewish Hospital, at Denver.

RALPH SELTZER, M.D.,† former medical officer, U.S.O.M. Institute of Inter-American Affairs, Lima, Peru, is now assistant to the area director for Indian Health, covering seven North Central States, with headquarters in Aberdeen, S. D.

MARION W. SHEAHAN, R.N.,* director, Division of Nursing Services, and associate director, National League for Nursing, has received a biennial Florence Nightingale Medal of the International Committee of the Red Cross.

JANE K. SMITH, R.N., former public health nurse, Umatilla County Health Department, is now nursing consultant, Vision Conservation section, Oregon State Board of Health.

TOM D. SPIES, M.D., Department of Nutrition and Metabolism, Northwestern University Medical School, has received the Distinguished Service Award of the AMA for his research in and contributions to human nutrition.

MEREDITH THOMPSON, Dr.Eng.,* due to a mix-up in names in the July Personals, was incorrectly credited with retirement and a 25-Year Service Award. ANDREW F. ALLEN was retiring and FRANK N. THOMSON † received the 25-Year Service Award. Each is on the staff of the Bureau of Environmental Sanitation, New York State Department of Health.

DONALD A. TRAUGER, former associate director, has been appointed director, Division of Social Research, National Tuberculosis Association, succeeding JANE HOEY,† retired.

M. M. VAN SANDT, M.D.,† medical director, Public Health Service, former director, Medical Care Division, Health Office, FCDA, has become director, Health Office, FCDA, Battle Creek, Mich., succeeding JOHN M. WHITNEY, M.D.*

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* Fellow.
† Member.

DEATHS

GEORGE F. BUCHAN, M.D.,* of London, England. Dr. Buchan was an Honorary Fellow of the Association.

BURKE DIEFENDORF, M.D.,* district state health officer, New York State Department of Health, Glens Falls, N. Y. (Epidemiology Section).

ROBERT ELMAN, M.D.,† professor, clinical surgery, Washington University Medical School, St. Louis, Mo. (Medical Care Section).

BARTON F. HAUENSTEIN, M.D.,† director, Division of Laboratories, Department of Health, Erie County Laboratories, Buffalo, N. Y. (Laboratory Section).

HELEN JOHNSON, R.N.,† of Bethesda, Md. (Public Health Nursing Section).

LAWRENCE F. LINDGREN,† instructor of pathology and bacteriology, University of Nebraska, Lincoln, on June 21 (Unaffiliated).

EDWARD M. SMITH, JR., M.D.,† officer-in-charge, Preventive Medicine Unit No. 2, Naval Base, Norfolk, Va., USN (Epidemiology Section).

PETER WENGER, M.D.,† of Ft. William, Ont., Canada (Health Officers Section).

CONFERENCES AND DATES

American Public Health Association, 85th Annual Meeting. Cleveland, Ohio. Headquarters: Public Auditorium, November 11–15, and Related Organizations, including:

American Association of Hospital Consultants
American Association of Public Health Physicians
American Association of Registration Executives
American Board of Preventive Medicine (November 8 and 9)
American College of Preventive Medicine
American Heart Association
American Industrial Hygiene Association
American School Health Association
American Society of Professional Biologists, Inc.
Association of Business Management in Public Health
Association of Labor Health Administrators
Association of Reserve Officers of the USPHS
Association of Schools of Public Health
Association of State and Territorial Nutrition Directors
Association of State Maternal and Child Health and Crippled Children's Directors
Association of Teachers of Preventive Medicine (November 10)
Commissioned Officers Association of the USPHS
Conference of Municipal Public Health Engineers
Conference on Medical Care Teaching of the Association of Teachers of Preventive Medicine
Conference of Municipal Nurse Directors
Conference of Public Health Veterinarians
Conference of State and Provincial Health Authorities of North America (November 10)
Conference of State and Provincial Public Health Laboratory Directors (November 10 and 11)
Conference of State Directors of Public Health Training (November 10)
Conference of State Sanitary Engineers
International Health Alumni, sponsored by the Division of International Health, PHS, Department of Health, Education and Welfare
Industrial Medical Association
Inter-American Association of Sanitary Engineering, U. S. Section
International Union for Health Education of the Public
Mental Health Nurse Consultants (November 9 and 10)
Military Government-Civil Affairs Public Health Society
National Association of Sanitarians
National Citizens Committee for the World Health Organization
National Conference for Health Council Work (November 9 and 10)
National Health Council
National Tuberculosis Association
Ohio Association of Public Health Sanitarians
Public Health Cancer Association of America
Social Workers in Health and Welfare Programs
Society of Public Health Educators (November 9 and 10)

Alumni Groups:
California Public Health Alumni Association, University of
Columbia University School of Public Health Alumni
Delta Omega
George Peabody College Alumni
Harvard Public Health Alumni Association
Johns Hopkins University Alumni

* Fellow.
† Member.

Massachusetts Institute of Technology Alumni
Michigan Alumni, University of
Minnesota, University of
North Carolina Alumni, University of
Pittsburgh Alumni, University of
Toronto University, Graduates' Organization, School of Hygiene
Tulane University Alumni
Yale University Alumni

State and Regional Public Health Meetings:

Florida Public Health Association. Ft. Lauderdale. October 31–November 2.
Minnesota Public Health Conference. Nicollet Hotel, Minneapolis. September 19–20.
Oregon Public Health Association. Medford. October 24–25.
South Dakota Public Health Association. Yankton. September 25–27.
Washington Public Health Association. Tacoma. October 20–22.

Meetings of Other Organizations Coming in September, October, and November:

American Academy of Pediatrics. Palmer House, Chicago, Ill. October 7–10.
American Association of Medical Record Librarians. Schroeder Hotel, Milwaukee, Wis. October 7–10.
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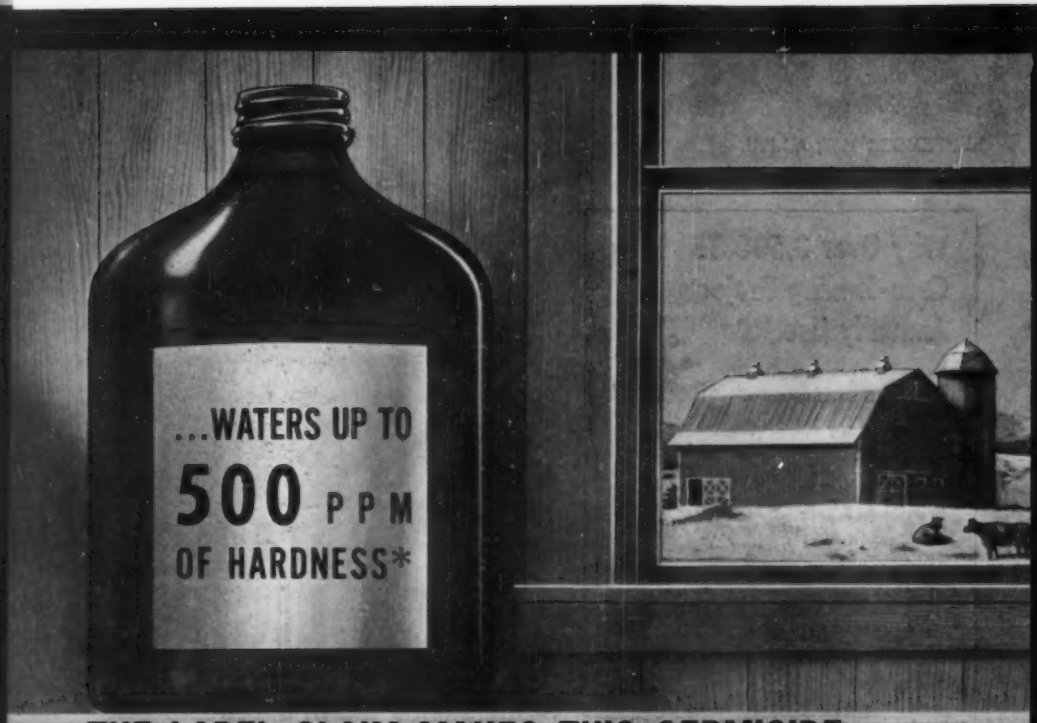

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